INSTRUCTION MANUAL (HD_Ver. 1.0_2012416)

H.264 Video Compression

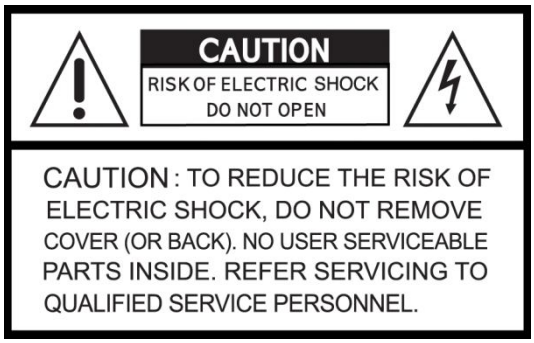
High Definition Digital Video Recorder

About this user guide

Before installing and using this unit, please read this user guide carefully.

Be sure to keep it handy for later reference.

Safety Precautions


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Explanation of Graphical Symbols

This symbol indicates the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

This symbol indicates the presence of uninsulated ”dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

WARNING

To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

CAUTION

Changes or modifications not expressly approved by the manufacturer may void the user’s authority to operate this equipment.

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Discard used batteries according to the manufacturer’s instructions.

These precautions must be followed for safety reasons.

Warning

- Do not use if the unit emits smoke, strange sounds are heard or odor is emitted.
  - Continued use may cause electrocution and/or fire. Immediately remove the power plug from the outlet. Once the unit stops emitting smoke, consult the dealership where this unit was purchased or factory shop for repairs.
  - Do not attempt repairs on your own.
- Make sure the power cable is not damaged.
  - Always use the power cable supplied with the unit.
  - Do not place heavy objects on the power cable or place the power cable near heating equipment. Also, do not bend the power cable forcefully, work upon or staple it. A damaged power cable may result in fire and/or electrocution.
  - Should the power cable become damaged it must be replaced by the dealership where this unit was purchased or factory shop.
- Make sure there is no dust accumulation on the power plug or the outlet.
  - Dust accumulation may result in a short-circuit and heat generation and cause fire.
  - Be especially careful when using an outlet situated in a room exposed to high humidity, condensation and/or dust, or in a kitchen.
  - Periodically remove the power plug from the outlet and clean any dust and dirt between the plug and the outlet.
- Caution when connecting the power cable
  - Connect the power plug directly with the outlet. Faulty connection may result in heat generation and cause fire.
  - Do not use the power cable while it is tied in a bundle. This may result in heat generation and cause fire.
  - When using the extension cord supplied, make sure the power consumption of the connected unit does not exceed the electrical rating of the extension cord. Higher power consumption may result in heat generation and cause fire.
- Disassembly prohibited
  - Do not place your hand inside this unit as this may cause fire and/or electrocution.
  - Consult the dealership where this unit was purchased or factory shop for diagnostics, adjustments, and repairs.
- Do not place any foreign objects inside the unit.
  - Do not insert or push in any metal or combustible object through openings such as air ducts. This may cause fire and/or electrocution.

- In the event that a foreign object is inside the unit, turn off and unplug the unit. Consult the dealership where this unit was purchased or factory shop. Continued use may result in fire and/or electrocution.

- Do not place a container holding water or other liquids above the unit when it is connected to power.
  - In the event that water gets inside the unit, turn off and unplug the unit. Consult the dealership where this unit was purchased or factory shop. Continued use may result in a fire or electrocution.
- Do not allow the unit to get wet.
  - This unit is not waterproof. Do not expose the unit to water. This may cause fire and/or electrocution. Do not use in a bath or shower room.
  - In the event that the internal components have been exposed to water, turn the power off and remove the power plug from the outlet. Consult the dealership where this unit was purchased or factory shop. Continued use may cause electrocution and/or fire.
- Do not use during thunder/thunder storms.
  - Do not use during thunder/thunder storms. Never touch the connection cable during thunder/thunder storms. This may cause electrocution.
- Do not place in an unstable position.
  - Doing so may cause accidents and/or breakdowns through falling or toppling.
  - In the event that the unit has been dropped or the casing has been damaged, turn the power off and remove the power plug from the outlet. Consult the dealership where this unit was purchased or factory shop. Continued use may cause electrocution and fire.
- Do not expose to shock or vibration.
  - Stored data may be damaged or lost through hard-disk breakdowns caused by shock/vibration.
- Do not use this unit in areas where it is exposed to the possibility of explosion.
  - Do not use this unit in areas where explosive and/or flammable gases are present. This may cause fire and/or explosion.
- For pluggable equipment, the socket-outlet shell be installed near the equipment and shall be easily accessible.

Caution

- Do not pull on the power cable when removing the power plug from the outlet.
  - Hold the power plug when disconnecting the power cable from the outlet. Pulling on the power cable from the outlet. Pulling on the power cable may damage the cord. This may cause fire and/or electrocution.
- Do not touch the power plug with wet hands.
  - Doing so may result in electrocution.
- Do not sit on.

- Doing so may cause the unit to fall, be damaged and/or result in injury.

- Make sure the cables are connected properly.
  - Connect and install the power cable and connection cable very carefully. Tripping over the cable may result in the unit capsizing or falling and cause injury.
- Do not place heavy objects on connected units.
  - Doing so may affect the stability of the unit and cause it to fall which may result in injury. Doing so may also damage the unit depending on the weight of the object.
- Shipment and portability
  - Never move this unit while the power is turned on.
  - When shipping, remove the power plug from the outlet, confirm that the connection cable has been removed, and store in original packaging. Ship using a method that causes the least amount of shock and/or damage to this unit. Also, do not drop this unit.
- Maintenance when the unit is going to remain unused for long periods of time
  - Remove the power plug from the outlet when the unit is going to remain unused for long periods of time.
- Cleaning the internal components
  - Consult the dealership where this unit was purchased or factory shop for cleaning internal components. Leaving the unit unused for long periods of time may attract duct to the internal components, which in turn may cause fire and/or breakdowns.
- Do not block the cooling fans or air ducts.
  - This unit it equipped with air ducts and cooling fans in order to assist the ventilation of hot air produced by the hard disk drive. Placing covers, placing in a case, or placing inside bookcases may cause heat build up, and may result in fire and/or electrocution.
  - When the unit is set up in a rack, leave open space on all sides.
    . Leave 5 cm or more of space above and below.
    . Leave 10 cm or more of space on both sides and on the rear.
- Do not expose to extreme temperatures or humidity changes.
  - Do not place in areas where the unit will be exposed to extreme temperatures (±10 degrees C per hour) or humidity changes.
- Points on unit positioning
  - This unit is constructed using precision electronic parts. Avoid placing it in areas described below as this may cause faulty operation and/or breakdowns.
    . In direct sunlight
    . In places exposed to water
    . In the vicinity of cooling and heating units or humidifiers
    . Near the air conditioner where the unit is exposed to cool air
    . Dusty areas
    . Areas that contain fire hazards
    . In the vicinity of volatile substances

. Areas where the unit will be exposed to constant vibration (in trains, cars, etc.)

- Cautionary points on condensation
  - Droplets may form on the outside when very cold water is poured into a cup. In the same way, droplets may form around the internal components of his unit. This is called condensation.
  - Do not use this unit if condensation has formed. Using this unit while condensation is formed may cause breakdowns. In the event of sudden sharp temperature changes, turn off the power and do not use this unit until the temperature of the room where it is positioned stabilizes (about 2 hours). Condensation will not occur while the power is turned on.
  - When condensation is likely to occur… Use the unit after turning the power off and leaving it for 1~2 hours.
- Back up battery
  - This unit has got a built-in lithium battery used to back up the clock function. The battery continues to operate the clock even when there is a power disruption.
  - The life expectancy of the battery is approximately 2 years. If the battery runs out or leaks, the clock resets when the power is turned off.
  - Battery fluid leaks

    . In the event that the battery fluid has leaked rinse hands/clothes thoroughly with water.

    . Loss of eyesight may result if battery fluid enters the eyes. Do not rub the eyes. Immediately rinse with clean water and consult a physician.
  - When disposing of this unit

    . Consult the dealership where this unit was purchased for information concerning the disposal of the lithium battery.

⚠ CAUTION:
RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

Warning

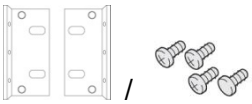
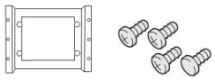
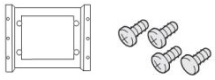
Installation and servicing should be performed only by qualified and experienced personnel.
Turn off the power of the DVR when connecting cameras, audio or sensor cables.
The manufacturer is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.
The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to fix the unit. The manufacturer may not be held liable for any issues with the unit if the warranty seal is removed.

Warranty for Critical Parts

- HDD, Battery and ATX Power: 2 years (25℃ environment)
- Cooling Fan: 3 years (25℃ environment)

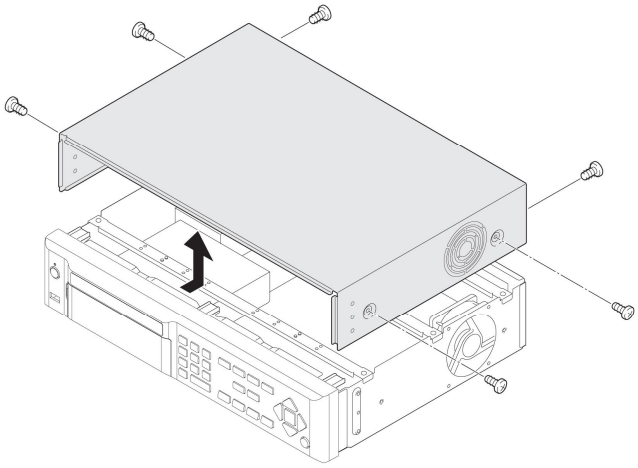
Product Components

The package contains the main unit and its components as specified below. When you purchase the unit, Please check to ensure the components specified below are included.

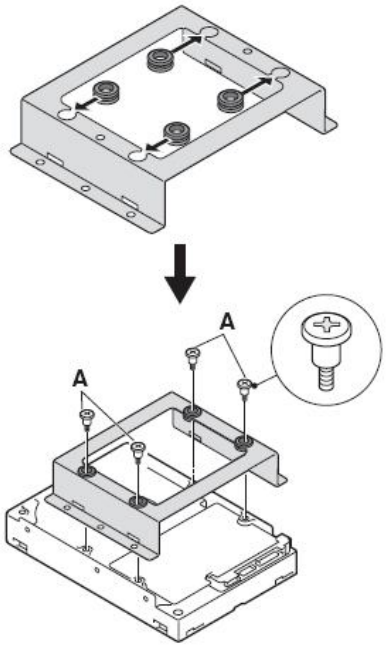
DVR Set		Mouse	
Client Software CD / Quick Guide		Remote Control / Battery	
HDD mounting bracket & Screw		HDD mounting bracket & Screw	
DVDRW mounting bracket & Screw		HDD data power cable	
HDD & DVDRW fixing screw		Audio Cable (for 16ch)	
Adaptor(DC 12V 5A) & Power Cable (Power Cable only for XHR-204P, XHR-216)		DVDRW (Option)	

HDD INSTALLATION GUIDE

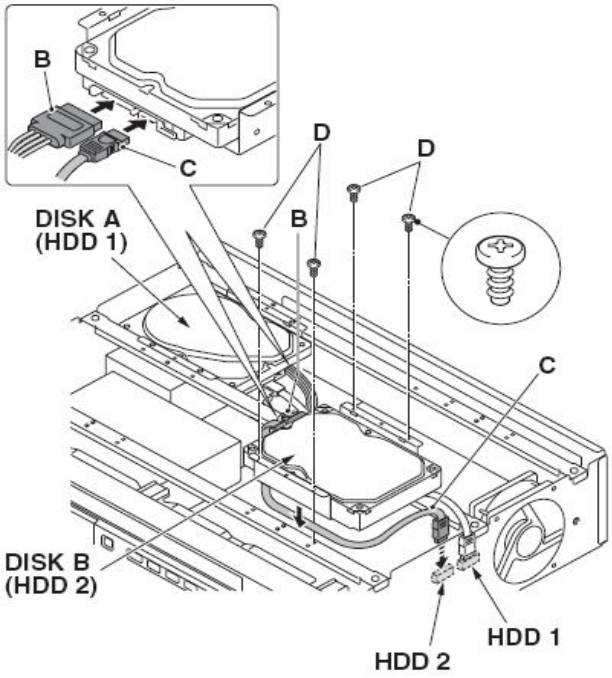
1. Remove the unit's cover.



2. Fix the supplied rubber pads to the supplied HDD mounting bracket. Then fix the hard disk to the mounting bracket using the supplied screws (A).



3. Connect the unit's power cable (B) and the supplied S-ATA cable (C) to the hard disk. Then fix the hard disk to the unit using the supplied HDD fixing screws (D).



would be better when installing the first HDD to HDD1 port because the system recognizes the first HDD as a master HDD. For a system stability, it would be better to keep the position and a number of HDD at the first installation. The system has to be power off to add or remove some HDD in use, unavoidable.

Compatible HDD Models

Seagate	ST32000641AS (Barracuda XT)	2 TB	7200 RPM	64 MB
Seagate	ST1000DM003	1 TB	7200 RPM	64 MB
Seagate	ST31000524AS (Barracuda 7200.12)	1 TB	7200 RPM	32 MB
Seagate	ST31000526SV (Surveillance)	1 TB	7200 RPM	32 MB
Seagate	ST31000524AS (Barracuda)	1 TB	7200 RPM	32 MB
Seagate	ST31000340SV (Surveillance)	1 TB	7200 RPM	32 MB
Seagate	ST31000528AS (Barracuda)	1 TB	7200 RPM	32 MB
Seagate	ST500DM002 (Barracuda)	500 GB	7200 RPM	16 MB
Seagate	ST3500411SV (Surveillance)	500 GB	7200 RPM	16 MB
Seagate	ST3500413AS (Barracuda)	500 GB	7200 RPM	16 MB
Seagate	ST3500830SCE	500 GB	7200 RPM	8 MB
Seagate	ST3500418AS (Barracuda)	500 GB	7200 RPM	16 MB
Seagate	ST3500410AS (Barracuda)	500 GB	7200 RPM	16 MB
Seagate	ST250DM000 (Barracuda)	250 GB	7200 RPM	16 MB
Seagate	ST3250410AS (Barracuda)	250 GB	7200 RPM	16 MB
Seagate	ST3250310SV (Surveillance)	250 GB	7200 RPM	8 MB
Seagate	ST3250318AS (Barracuda)	250 GB	7200 RPM	8 MB
Seagate	ST3160815AS (Barracuda)	160 GB	7200 RPM	8 MB
HITACHI	HDS723020BLA642	2 TB	7200 RPM	64 MB
HITACHI	HDS722020ALA330	2 TB	7200 RPM	32 MB
HITACHI	HDS721010KLA330	1 TB	7200 RPM	32 MB
HITACHI	HDT721010SLA360	1 TB	7200 RPM	16 MB
HITACHI	HDS721010CLA332	1 TB	7200 RPM	32 MB
HITACHI	HDS721050CLA362	500 GB	7200 RPM	16 MB
HITACHI	HDP725050GLA360	500 GB	7200 RPM	16 MB
HITACHI	HDS721032CLA362	320 GB	7200 RPM	16 MB
HITACHI	HDS721025CLA382	250 GB	7200 RPM	8 MB
HITACHI	HDT721025SLA380	250 GB	7200 RPM	8 MB
HITACHI	HDP725025GLA380	250 GB	7200 RPM	8 MB
Western Digital	WD10EALX (009BA0)	1 TB	7200 RPM	32 MB
Western Digital	WD5000AAKX (001CA0)	500 GB	7200 RPM	16 MB
Western Digital	WD2500AAKX	250 GB	7200 RPM	16 MB
Western Digital	WD2500AAKS	250 GB	7200 RPM	16 MB

<NOTICE> The brands and models of all HDD should be the same. If the brands and models of the HDD are different, the DVR may not recognize HDD or malfunction. Please don't use a HDD under 7200 RPM for a HD Series.

Storage Estimation

HDD Capacity	Super	High	Standard	Economy
	Hour(s)	Hour(s)	Hour(s)	Hour(s)
250GB	23 Hours	1 Days 5 Hours	2 Days 10 Hours	4 Days 20 Hours
500GB	2 Days	2 Days 13 Hours	5 Days 1 Hours	10 Days 2 Hours
1TB	4 Days 3 Hours	5 Days 4 Hours	10Days 8 Hours	20 Days 16 Hours
2TB	8 Days 9 Hours	10 Days 11 Hours	20 Days 21 Hours	41 Days 19 Hours

Recording Condition: 4CH * 1280X720* 30fps * Continuous

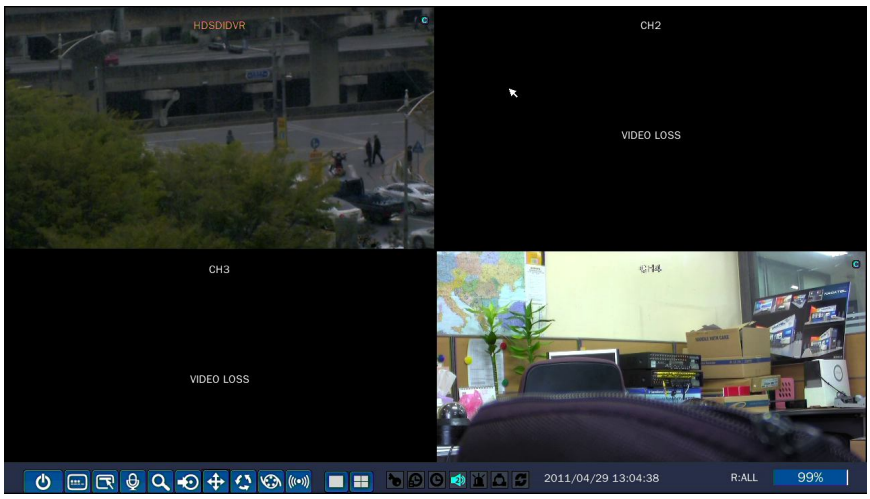
Booting the DVR and Basic Time Setting

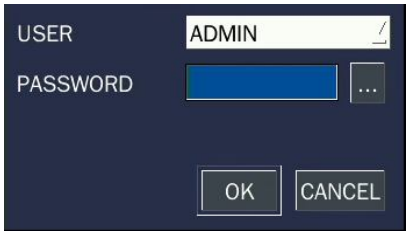
1. During the first start up, the following message will be displayed.

Setting Daylight Saving Time

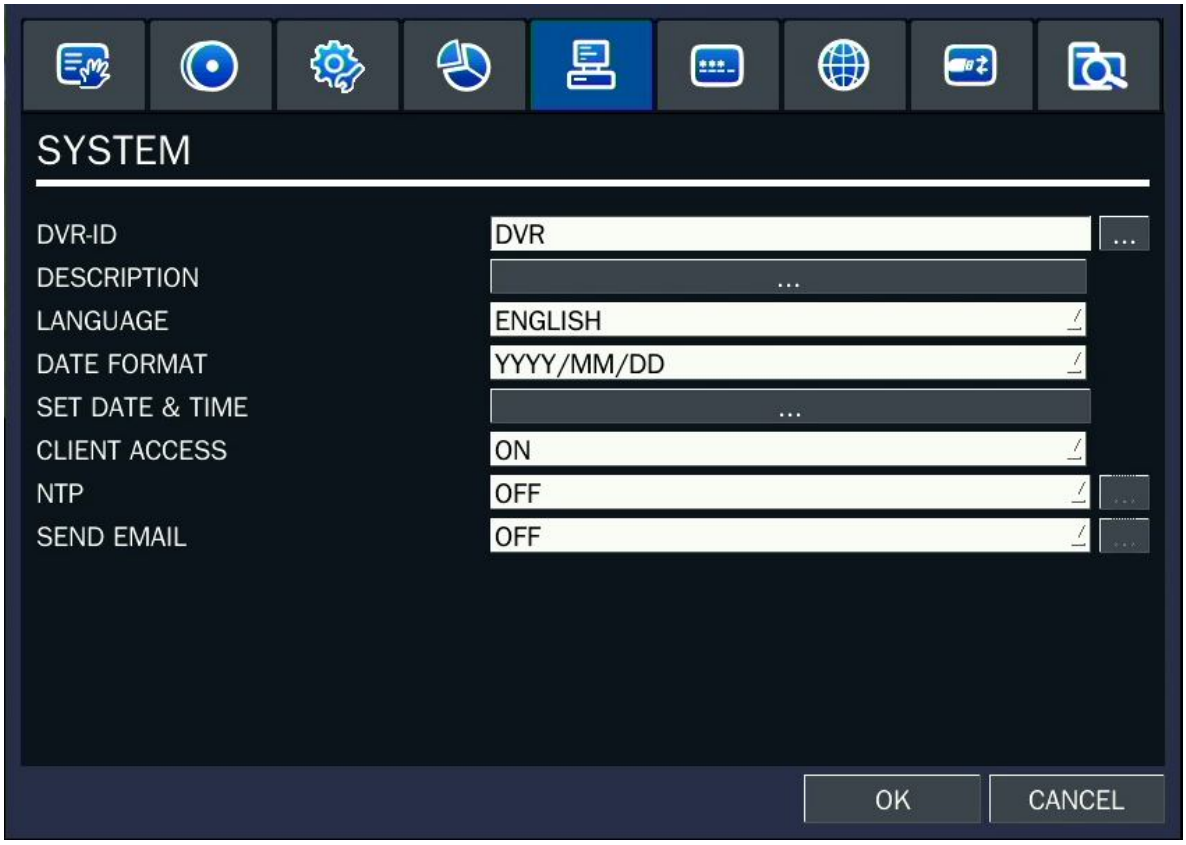
If the DVR is to be set Day Light Saving Time and be synchronized NTP (Network Time Protocol), Take next steps.

1. Enter the SETUP mode. The default Password is "1111".

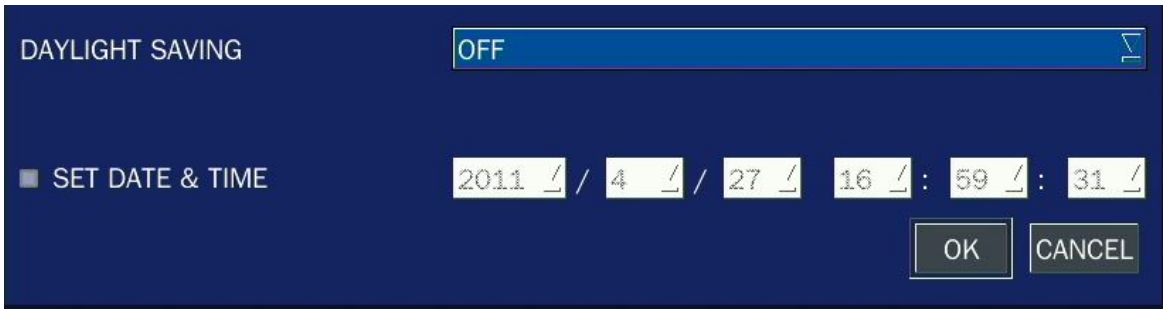




2. Go to SETUP>SYSTEM>SET DATE & TIME

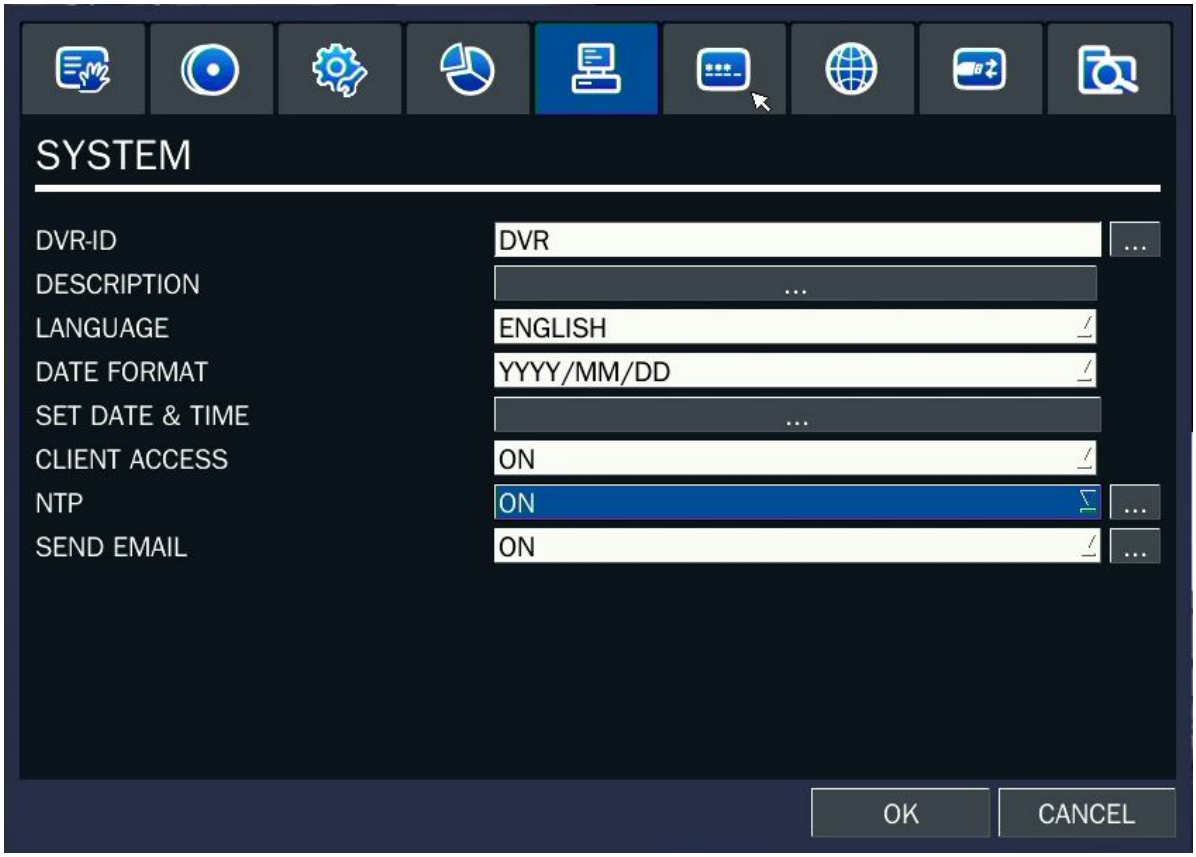


3. Select DAYLIGHT SAVING.



Setting NTP (Network Time Protocol)

1. When the DVR is connected with internet and the DVR need to be syncronized with NTP (Network Time Protocol), set SETUP>SYSTEM>NTP ON.



2. Select proper TIME ZONE time.

NOTE: If you want the unit to automatically synchronize the local time, the Time Zone must be properly set according to your local Time Zone.

Specification

ITEM			XHR204	XHR208	XHR216
Video	Input	Channel, Input Level	4/8/16CH HD-SDI (1080p25/30, 1080i50/60, 720p25/30/50/60 Auto Detection)		
	Output	HDMI	1 HDMI (Max 1920x1080p60 and Various Resolution)		
		VGA	1 VGA (Max 1920x1080p60 and Various Resolution)		
Audio	Input		4/8/16CH RCA		
	Output		1 RCA, 1 HDMI		
	Audio Codec		G.711		
Alarm	Sensor Input		4/8/16ch (NC/NO Selectable)		
	Alarm Output		1/2/4ch Alarm out by Sensor, Motion and Video Loss		
Record	Compression		H.264		
	Multi-operation		QUADPLEX (Playback/Record/Network/Backup)		
	Resolution NTSC/PAL	1080p	20fps	40fps	80fps
		720p	48fps	96fps	192fps
		640x360	60fps	120fps	240fps
	Recording quality grade		LEVEL 1 (Low), 2, 3, 4, 5 (High)		
	Recording Mode		Continuous / Schedule / Motion/ Sensor/ Manual		
	Pre & Post Recording		Yes		
Display	Frame Rate (/Sec)		NTSC: 30fps/ch, 60 fields / PAL: 25fps/ch, 50 fields		
Playback	Multi-Decoding		1, 4	1, 4, 8	1, 4, 8, 16
	Playback Speed	Single channel	x 1/4, 1/2, 1, 2, 4, 8, 16, 32, 64		
		Multi-channels	Up to x32	Up to x16	Up to x8
Storage	HDD	Capacity of 1 HDD	2TB		
		Internal HDD No.	1 (2: w/o DVDRW)		2 (4: w/o DVDRW)
	E-SATA Port & USB Port		1 & 2 (Front 1, Rear 1)		2 & 2 (Front 1, Rear 1)
	Backup	USB Flash drive	Video & Still Image		
		Huge Backup	Yes (up to 24 hours)		
		Build-in DVD-RW	Video & Still Image		
		Network	Video & Still Image		

User I/F	Input Method	Front button, Remote control, Mouse, Keyboard controller	
Serial port	Console	1 RS-232C	
	PTZ & Keyboard control	1 RS-485	2 RS-485
	Termination	Yes	
Network	Dynamic DNS	Yes (Free DDNS)	
	Dual Encoding for Network	640x360 60fps (HD TBD)	
Network Access	Web viewer (1:1)	Live, Search, Backup, PTZF Cam Control, Remote Setup, Remote Upgrade	
	UMS Single (1:1)		
	UMS Multi (1:n)		
Features	Useful Features	DLS & NTP & S.M.A.R.T & Digital Zoom	
	Internal Beep	By Alarm, Motion, Video Loss, HDD error	
	Multi-Language	Yes (more than 20 languages)	
	3G Mobile	Yes (Exclusive Viewer)	
Power	Power Supply Voltage	DC 12V 5A	280W SMPS
Allowable operation temperature During operation		5°C - 40°C, During storage: -10°C - +50°C	
Weight	Unit Weight (Gross weight)	4.1Kgs (6.2Kgs)	6.8Kgs (9.0Kgs)
Dimension	Unit Dimension (W x H x D)	432mm x 340mm x 98mm	

<Please note that specifications and unit exterior design are subject to change without notification>

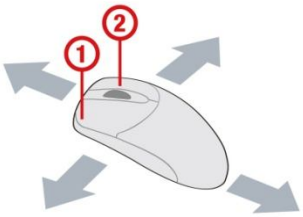
Specification

ITEM			XHR-204P
Video	Input	Channel Input Level	4CH HD-SDI (720p25/30/50/60, 1080p25/30, 1080i50/60)
	Output	Main Monitor	HDMI (Max. 1920x1080)
		Sub Monitor	VGA (Max. 1920x1080)
		HD-SDI Monitor	SDI (1920x1080 60i)
		CVBS	
		SPOT	
Audio	Input		4CH Line Input
	Output		1CH Line and HDMI Output
	Audio Codec		G.711
Alarm	Sensor Input		4CH, NC/NO Selectable
	Alarm Out		1CH out by Sensor, Motion and Video Loss
Operation	PentaPlex		Live/Record/Playback/Backup/Network
Live	Digital Zoom		Zoom-in of specific area

	Channel Sequence		3 ~ 60 seconds Auto
Recording	Compression		H.264
	Resolution		Up to 1920x1080
	Recoding Quality Grade		5 Levels
	Recording Mode		Continuous, Schedule, Motion, Sensor, Manual
	Motion Detection		Setup by Grid
	Pre Recording		Min. 15 seconds and Max. 20 minutes
	Post Recording		10 ~ 60 seconds
Playback	Digital Zoom		Zoom-in of specific area
	Speed	FF	x1/4, x1/2, x2, x4, x8, x16 and x32
		FR	x2, x4, x8, x16 and x32
	Search Mode		Timeline, Event, Archive, Log, Specific Time
Backup	File Format		JPEG/Proprietary Format
	Media		USB/External HDD/DVD/Network
	Built-in Viewer		Yes
Network	Dual Streaming for Live		1280x720/640x360 120/100fps
	Playback		H.264 HD 120/100fps
	Streaming		RTP/RTSP/RTCP
	Protocols		HTTP, DDNS, NTP, SMTP
Storage	HDD	Interface	SATA, e-SATA
		Max. Capacity of HDD	2TB
		Max. Internal HDDs	4EA
	External Storage		2 e-SATA for RAID
	File system		Self-developed, Reliable and Stable Filesystem
	S.M.A.R.T		HDD Error Check and Reporting
User Interface	Menu Display		Graphic User Interface
	Input Method		Front Buttons, IR Remote control, Mouse, Keyboard controller
Serial	POS		1 RS-232C
	PTZ & Controller		2 RS-485, HD-SDI
Network	Ethernet		RJ-45, 10/100/1000Base-T, Auto MDI/MDIX
Network Access	Web Viewer		Live, Search/Playback, Backup, PTZF, Remote Setup/Upgrade
	Single-site monitoring software		Live, Search/Playback, Backup, PTZF, Remote Setup/Upgrade
	Multi-sites monitoring software		Live, Search/Playback, Backup, PTZF, Remote Setup/Upgrade

Features	DST (Daylight Saving Time)	Yes
	Internal Beep	By Video Loss, HDD Error
	Multi Language	Yes (more than 20 languages)
	Software Upgrade	By USB, Network Remote Upgrade
	NTP	Yes
	Watermarking	Yes
	3G Mobile	iPhone, Android, Blackberry
General	Operation Condition	0~40C, Humidity 20~80%
	Power	AC 100~120V/200~240V, 50/60Hz, 280W
	Net Weight (Gross Weight)	6.6 kg (8.8 kg) / 14.6 lbs (19.4 lbs)
	Unit Dimension (W x D x H)	432mm x 340mm x 98mm

Basic function of the MOUSE



①：Left button: SELECT function

②：Wheel: MOVEMENT function on a drop-down menu

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Name, Function and Connection

1-1. Front Panel

The following information will help you to operate the front panel controls.

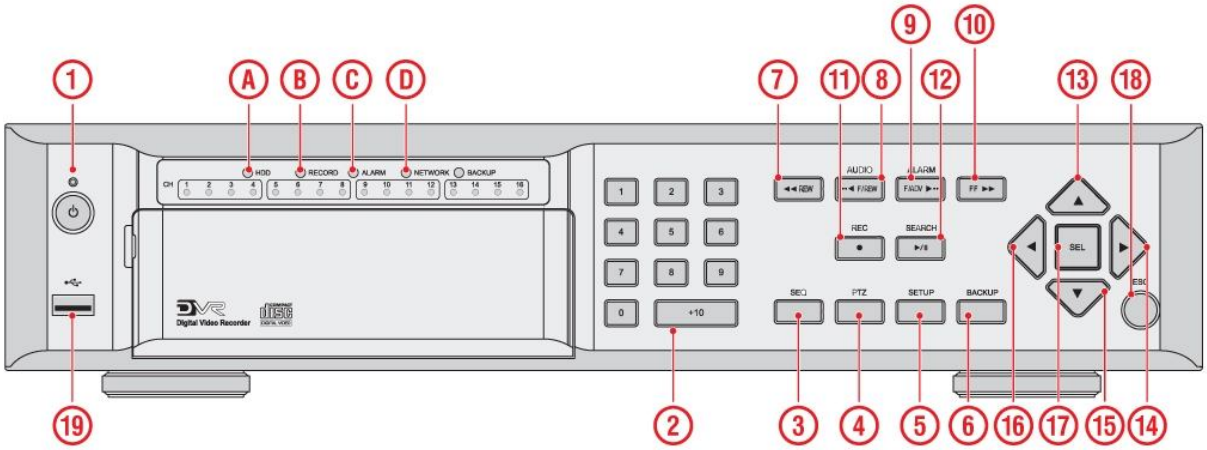


Figure 1.1.1. Front panel

Table1.1.1. Indication lamps

NO.	Name	Description
A	**HDD**	Indicating that the system is accessing the hard disk.
B	**RECORD**	Indicating that the system is recording video data.
C	**ALARM**	Indicating that when sensor(s) is/are triggered or motion is detected.
D	**NETWORK**	Indicating that when Network client connects through the network.
E	**BACKUP**	Indicating that USB or CDRW storage device is stored images or video.

Table 1.1.2. Front panel buttons

NO	Name	Description
1	**POWER**	POWER ON/ OFF
2	**NUMBER**	Channel keys. For channel 10, press the 0 key. For channel 11, press the +10 and 1 key. For channel 16, press the +10 and 6 key.
3	**SEQ**	Enable/disable the automatic sequence of display of channels in full screen, quad, 9-split display mode.
4	**PTZ**	Press to control Pan/Tilt/Zoom operations.
5	**SETUP**	Press to enter SETUP menu.
6	**BACKUP**	Press to capture video in jpeg format in live or playback mode.
7	**REW**	Press to rewind the footage in playback mode.
8	**AUDIO**	Press to select audio mode such as SINGLE, MIX and MUTE. MUTE- All of 4 channels. SINGLE- Highlighted channel only. MIX- All of 4 channels.

8	**F/REW**	Jump/Step backward. In playback mode, the playback position moves 60 seconds backward.
9	**ALARM**	Press to enable/disable ALARM operation.
9	**F/ADV**	Jump/Step forward. In playback mode, the playback position moves 60 seconds forward.
10	**FF**	Press to fast forward the footage in playback mode.
11	**REC**	Press to start or stop manual recording.
12	**SEARCH**	Press to go to SEARCH menu in live display mode.
	PLAY/PAUSE	Press to play and pause the footage in playback mode.
13	**UP**	Press to move up the menu in Setup mode. It is also used as the number 1 when entering password.
14	**RIGHT**	Press to move right or to change the values in Setup mode. It is also used as the number 2 when entering password.
15	**DOWN**	Press to move down the menu in Setup mode. It is also used as the number 3 when entering password.
16	**LEFT**	Press to move left or to change the values in Setup mode. It is also used as the number 4 when entering password.
17	**SEL**	Press to select desired menu item or to store the setup value.
18	**ESC**	Press for temporary storage of the changed value or to return to the previous menu screen.
19	**USB Port**	To archive still-image or video into a USB memory and USB CDW or upgrade firmware with USB memory stick.

1-2. Rear Panel

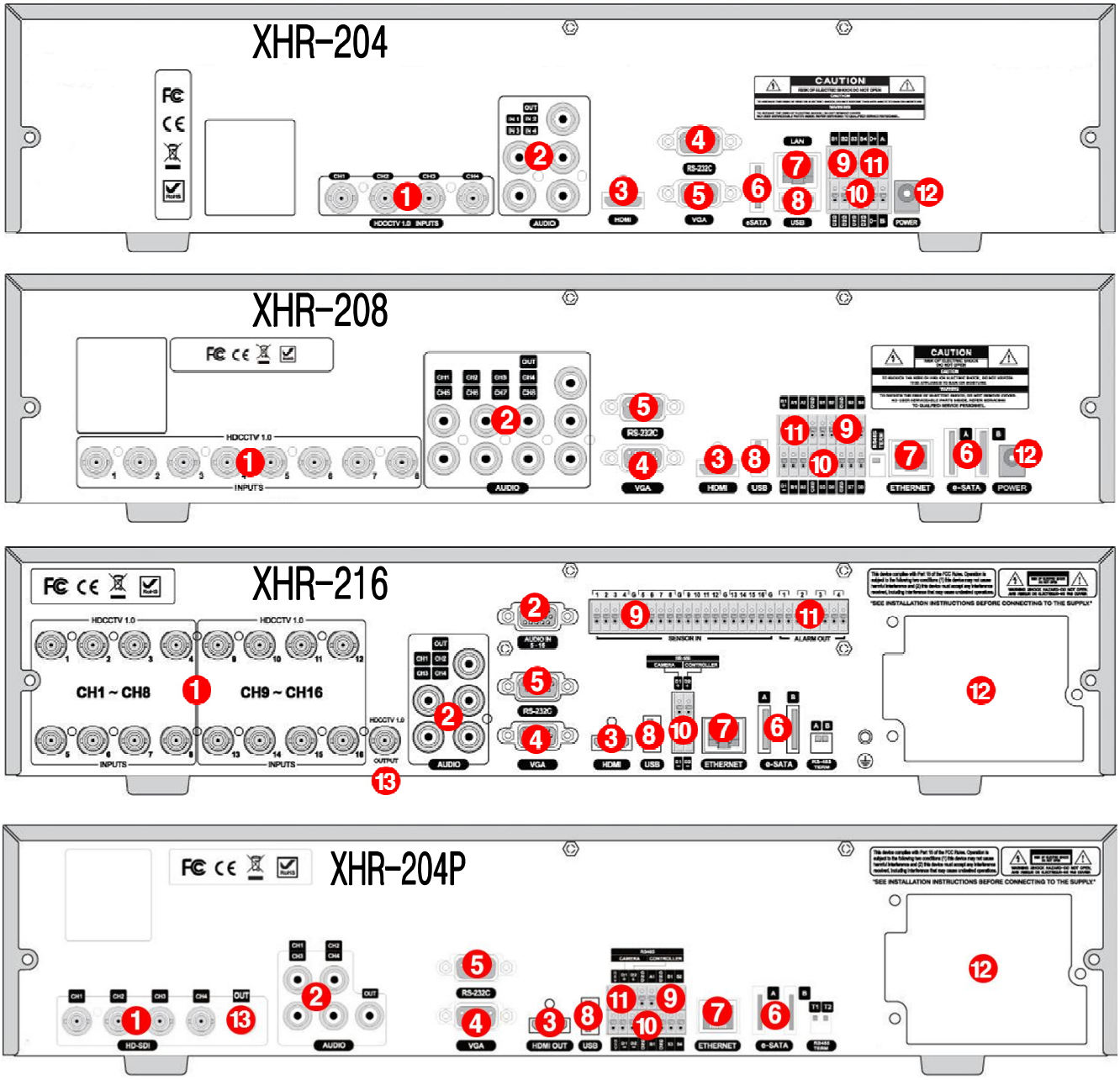


Figure 2.2.1. Rear Panel

Table 2.2.1. Rear panel connections

NO	Connection	Purpose
1	**VIDEO IN**	HD-SDI connectors for video input.
2	**AUDIO IN**	4/8/16 connectors for audio input. In case of 16ch, an audio cable is needed from ch 5 to ch 16.
	AUDIO OUT	1 connector for audio output.
3	**HDMI OUT**	HDMI connectors for main video output.
4	**VGA**	Connector for VGA monitor.
5	**RS-232C**	For engineering use only, the function be used by a gender through the

		VGA output
6	**E-SATA**	External SATA terminal
7	**ETHERNET**	RJ-45 connector for network function
8	**USB Port**	Connector for Mouse or Backup
9	**SENSOR IN**	4/8/16 Connectors for Sensor device connection
10	**RS-485**	RS-485 control terminal (D+, D-)
11	**ALARM OUT**	1/2/4 connectors for alarm device. Provide simple on/off switching by using relay (A, B)
12	**POWER**	DV12V for 4/8ch. 280W SMPS for 16ch
13	**HD Out**	HD SDI Out for HD SDI Monitor

1-3. Remote control

4/8ch 16ch

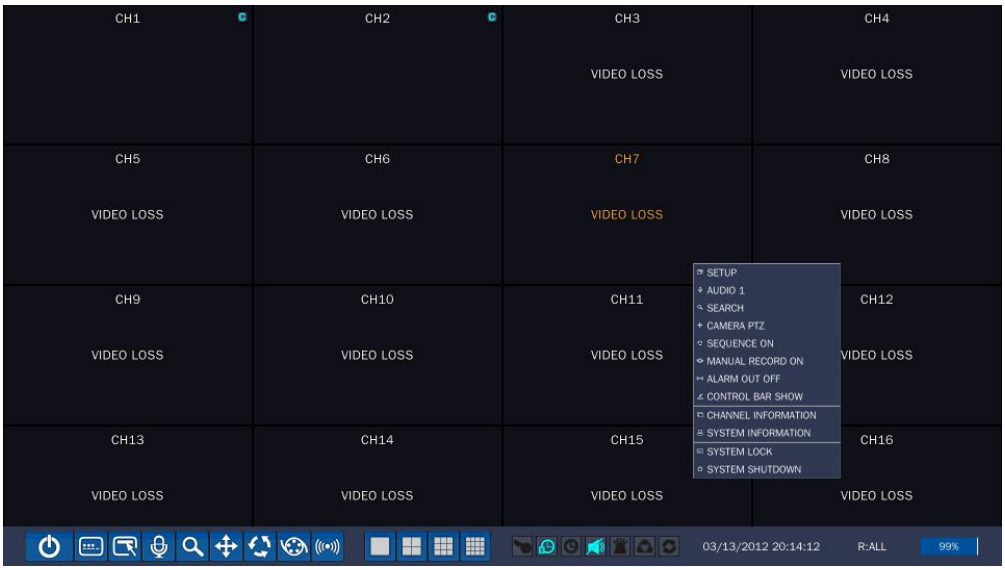
RECORD	Manual recording
DISPLAY	Display of Full, Quad, 9 or 16 split screen
F/REW	Jump 60 seconds backward
PLAY/PAUSE	Play/Pause
F/ADV	Jump 60 seconds forward
REW	Rewind
BACKUP	Backup still or video data
FF	Fast Forward
ALARM	Disable alarm operation
SETUP	Setup menu screen
ID	DVR ID (ID Button + DVR ID number)
AUDIO	Mute, Single(1CH)
LOCK	Lock all of key functions
SEQ	Sequence of Full or Quad view
PTZ	PTZ menu screen
SEARCH	Search menu screen
DIRECTION KEY	Direction key
SELECT	Select or display of split screen
ESC	Esc
NUMBER 1~9,0	Channel 1 to 9 / 10CH->press 0
+10	Channel 11 to16 11CH->press +10 and number 1 16CH->press +10 and number 6

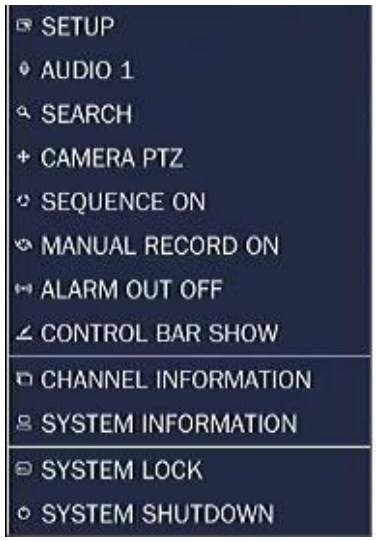
1. Setting up the DVR

The following sections detail the initial setup of a DVR.

2-1. Setup – Main Screen

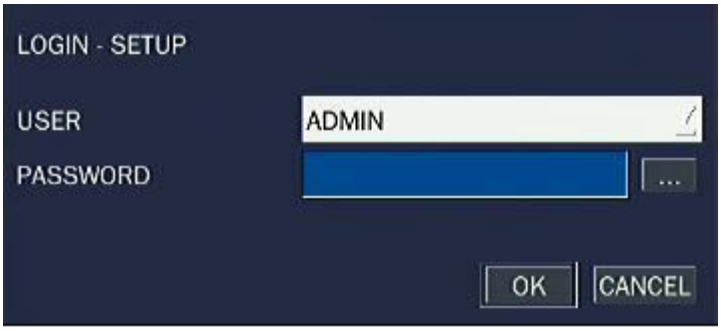
To enter the setup menu, select MENU and SETUP on the screen using the mouse or press the SETUP





button on the front panel. Then select a user type. User can select one of user types (ADMIN, USER1, USER2, USER3) using the control button (◀ ▲ ▶ ▼) on the front panel and press SEL button.

Input the password by front key panel, mouse or remote controller.



Use the Virtual Keyboard when you use front key and mouse. The factory default password is 1111.
It is highly recommended to assign a new password to protect the system. User can assign a new password in SECURITY setup menu.

CONTROL BAR AUTO HIDE: Set to hide automatically or display continuously a control bar on the bottom side in a Live mode.

CHANNEL INFORMATION: Display a channel number, channel name, resolution, frame rate, quality and recording type of each channel.

SYSTEM INFORMATION: Display a software version, storage size, network type, IP address, MAC address, DDNS status, DVR ID and remote controller ID of the system.

SYSTEM LOCK: To lock the system, user input a password. To unlock the system, please press ESC button for 5 seconds on a front panel or a remote control. You can also unlock the system when pressing LOCK icon on the screen using a mouse control. Then, the system will ask a password.

Table 2.1.1. Setup menu tree

- DISPLAY
  - OSD
  - SEQUENCE
  - SEQUENCE-DWELL TIME
  - CHANNEL
    - NAME
    - COVERT
  - VIDEO OPTION (HDMI/VGA)
- RECORD
  - CHANNEL
    - RECORDING MODE
    - RESOLUTION
    - FRAME RATE
    - QUALITY
    - RECORDING
    - SENSOR RECORDING
    - PRE RECORD
    - POST EVENT RECORD
    - AUDIO
    - SCHEDULE
- DEVICE
  - ALARM OUT
  - CONTROLLER & PTZ
  - CHANNEL
    - MOTION ZONE
    - MOTION SENSITIVITY
  - KEY TONE

- REMOTE CONTROL ID
- SENSOR
    - TYPE

- STORAGE
  - OVERWRITE
  - DISK FORMAT
  - DISK INFO
  - RECORDING LIMIT
    - RECORDING LIMIT DAYS
  - S.M.A.R.T
- SYSTEM
  - DVR-ID
  - DESCRIPTION
  - LANGUAGE
  - DATE FORMAT
  - SET DATE & TIME
  - CLIENT ACCESS
  - NTP
  - SEND EMAIL
- SECURITY
  - USER AUTHENTICATION
  - USER PASSOWRD
  - AUTHORITY OF PLAYBACK
- NETWORK
  - PORT
  - NETWORK AUDIO PORT
  - WEB PORT
  - NETWORK TYPE (DHCP, STATIC)
  - DDNS
  - NETWORK STREAM
- CONFIG
  - SAVE SETUP TO A USB
  - LOAD SETUP FROM A USB
  - LOAD DEFAULT
  - LOAD FACTORY DEFAULT
  - SOFTWARE UPGRADE
- QUICK SETUP
  - USE QUICK SETUP
  - CUSTOMER SETTINGS

2-2. Setup – Display Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select DISPLAY icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

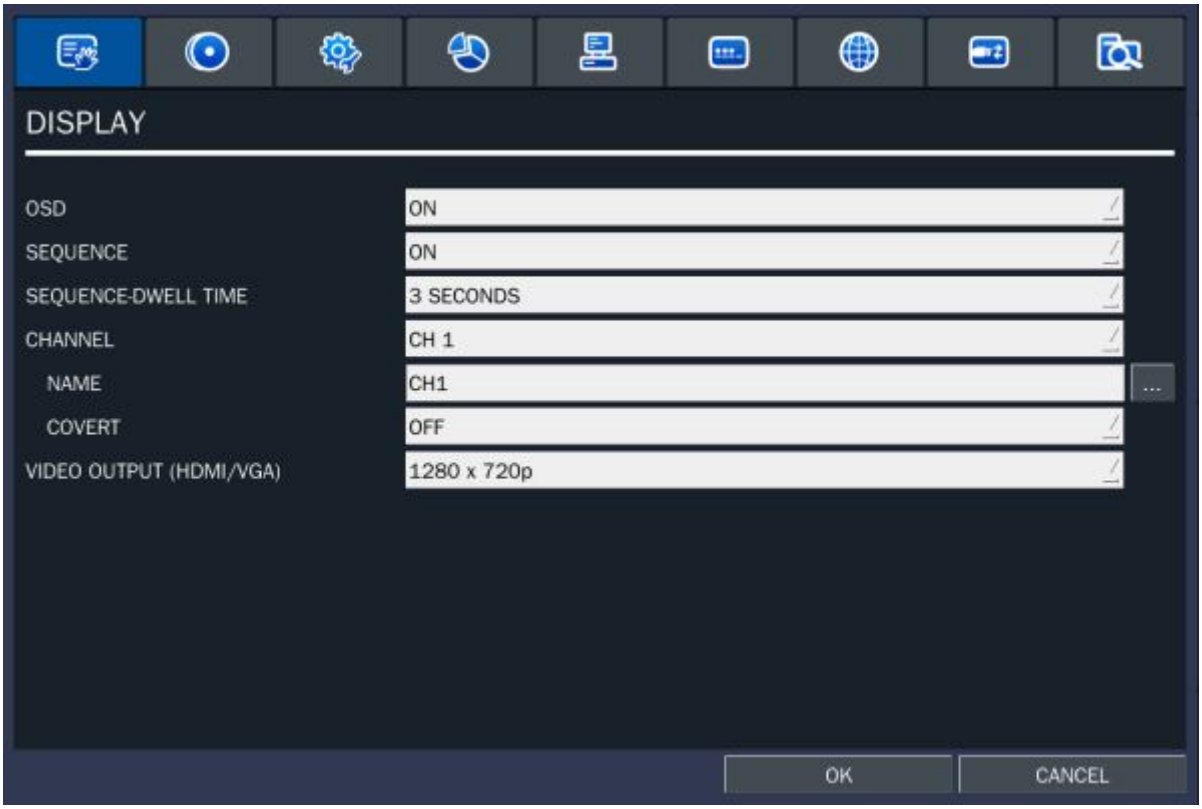


Figure 2.2.1. Display mode setup screen

Table 2.2.1. Menu items in DISPLAY mode setup

Item	Description
OSD	Enable/disable on-screen-display. Select ON: show it on the screen, Select OFF: Disappear on the screen.
SEQUENCE	Enable/disable sequential display of video in full screen mode.
SEQ-DWELL TIME	Set the dwell time of each, single channel display in sequential display mode (3~60seconds)
CHANNEL	Select a channel for applying the following settings using the control button (◀ ▲ ▶ ▼). Press SEL button to change the channel.
NAME	Set the channel name. Press SEL button and set the channel name and select OK using the control button (◀ ▲ ▶ ▼).
COVERT	Enable/disable display of the video channel in live display mode.
VIDEO OUTPUT (HDMI/VGA)	Select a video output type for HDMI/VGA. Default value is 1280x720p. If the monitor doesn't support some output type, it would be returned to the previous value.

2-3. Setup – Recording Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select RECORD icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

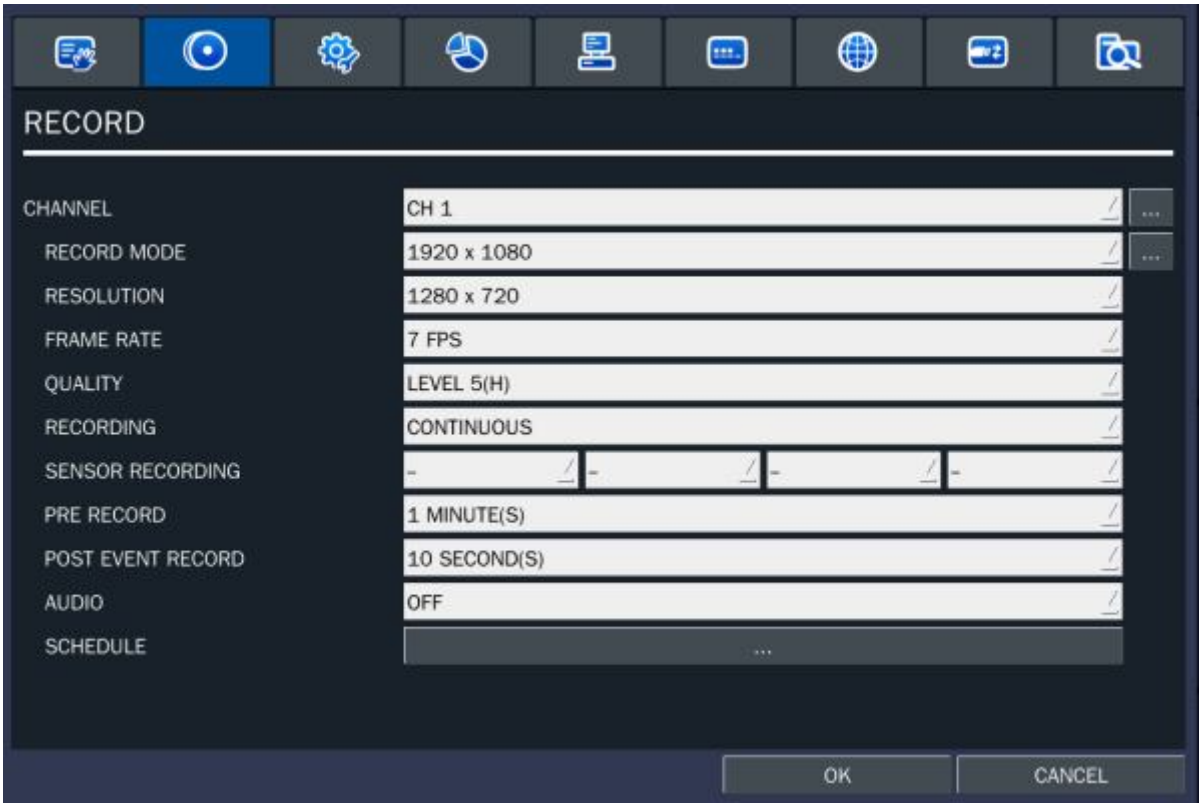


Figure 2.3.1. Recording mode setup screen

Table 2.3.1. Menu items in Recording mode setup

Menu item	Description
CHANNEL	Select a channel for applying the following settings using the control button (◀ ▲ ▶ ▼). Press SEL button to change the setting value of all channels at once. Once you select an item, then press SEL to set value for all channels. Use virtual keyboard for all setting on one screen as you want as bellow picture.

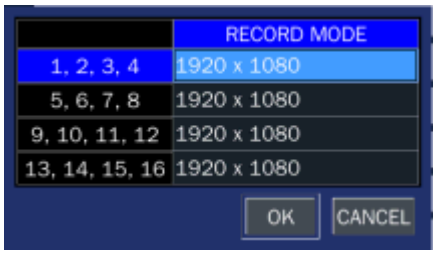
RESOLUTION
FRAME RATE
QUALITY
RECORDING
PRE RECORD
POST EVENT REC
AUDIO
ALL 1280 x 720 12 LEVEL 4 CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
1 1280 x 720 12 LEVEL 4 CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
2 1280 x 720 12 LEVEL 4 CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
3 1280 x 720 12 LEVEL 4 CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
4 1280 x 720 12 LEVEL 4 CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
OK
CANCEL

RECORD MODE

This compact DVR has a record mode. Maximum recording frame rate per channel is different by the record mode as follows.

Record mode	Input	Resolution	Maximum Recording Framerate per ch		
			4ch	8ch	16ch
720 mode (1280x720)	720/1080	1280x720	12fps	12fps	12fps
		640x360	15fps	15fps	15fps
1080 mode (1920x1080)	720	1280x720	10fps	10fps	7fps
		640x360	15fps	15fps	7fps
	1080	1920x1080	5fps	5fps	5fps
		1920x540	10fps	10fps	7fps
		1280x720	10fps	10fps	7fps
		640x360	15fps	15fps	7fps

Each record mode is applied from ch1 to ch 4, from ch 5 to ch 8, from ch 9 to ch 12 and from ch 13 to ch 16, as follows.



RESOLUTION

Set the resolution for the specified channel: 1920x1080, 1920x540, 1280x720 and 640x360.

FRAME RATE

Set the frame rate for the specified channel. The sum of the frame rate values from each channel cannot exceed the maximum frame rates for a specific recording resolution by the specific recode mode.

*** It is possible to use 1080p camera and 720p camera at the same time. Please note that the system has to be booted after connecting all cameras on the system.**

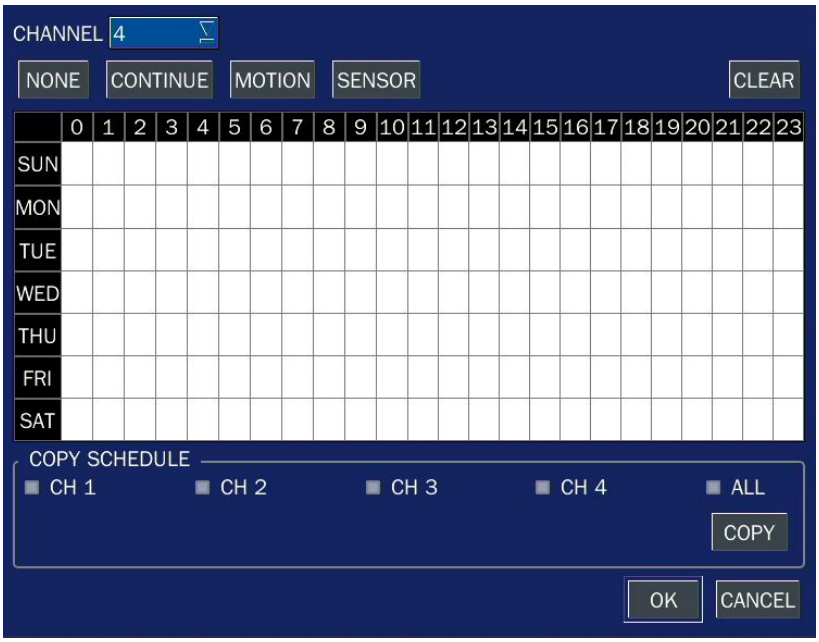
QUALITY	Select the recording quality for the specified channel. Options are: Level 1 (Low), 2, 3, 4 and 5 (High)
RECORDING	Assign the recording mode for each channel. Options are: Continuous, By Motion, By Sensor, By Schedule or Disable.
SENSOR RECORDING	Enable setting up to 4 sensors for the specified channel using the control button (◀ ▲ ▶ ▼).
PRE RECORD	Enable/disable pre-event recording. Pre-event recording time is 15 seconds to 20 minutes(Selectable)
POST EVENT RECORD	Set the post event recording time duration for the specified channel. (10-60 seconds)
AUDIO	Enable/disable audio recording for the specified channel.
SCHEDULE	Set the recording schedule. Press SEL to go to schedule setup screen.

2-3-1. Recording Schedules

To setup a recording schedule, select SCHEDULE in the RECORD menu. Navigate through the items using the control button (◀ ▲ ▶ ▼).

Once the channel 1 is selected, SCHEDULE-CH1 screen is displayed. Select ALL or each day using the control button (◀ ▲ ▶ ▼) and set the recording mode using the SEL button repeatedly

.



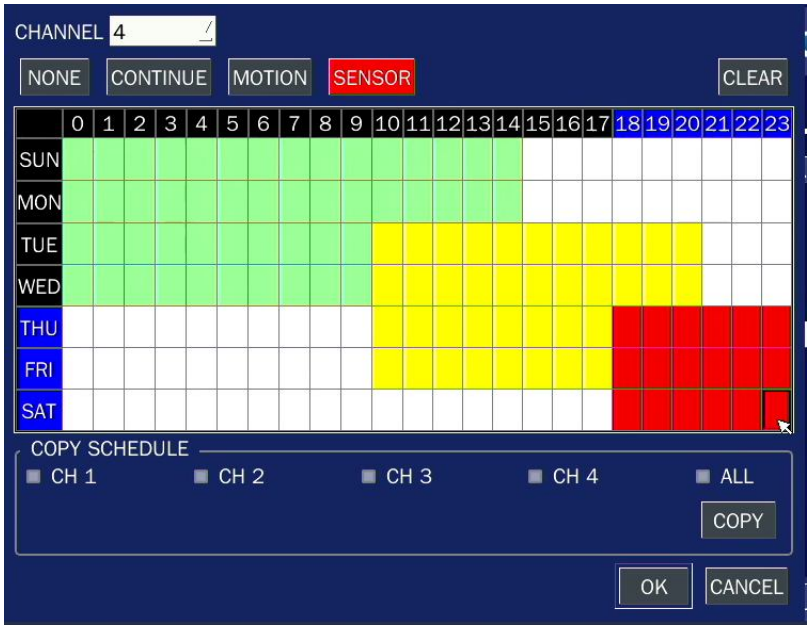


Figure 2.3.2. Schedule recording setup screen

C: CONTINUOUS recording, when you select the color will change to Blue Color
M: MOTION recording, when you select the color will change to Yellow Color
S: SENSOR recording, when you select the color will change to Red Color
−: Does not record

[**ALL**]: Move the cursor to ALL and select a recording mode C,M or S using the SEL button to set the same setting for every day.

[**SUN to SAT**]: Move the cursor to SUN to SAT and select a recording mode C,M or S using the SEL button to set the same setting for the whole day.

[**Vertical Bar** " **|** "]: Move the cursor to ALL and move the cursor to the specific time using the control button (◀ ▲ ▶ ▼). And select a recording mode C,M or S using the SEL button to set the same setting.

[**SEL**]: The recording mode can be selected by pressing repeatedly the SEL button.

[**COPY FROM] [COPY TO]**: Set the channel 1 schedule and select COPY TO using the control button (◀ ▲ ▶ ▼), select CH2 using the control button (◀ ▲ ▶ ▼) and press the SEL button. Then the CH1 schedule is copied to CH2.

To return to setup menu screen, press the ESC button.

The setting of the schedule recording is determined by the admin only.

2-4. Setup – Device Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select DEVICE icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼).To return to setup menu screen, press the ESC button.

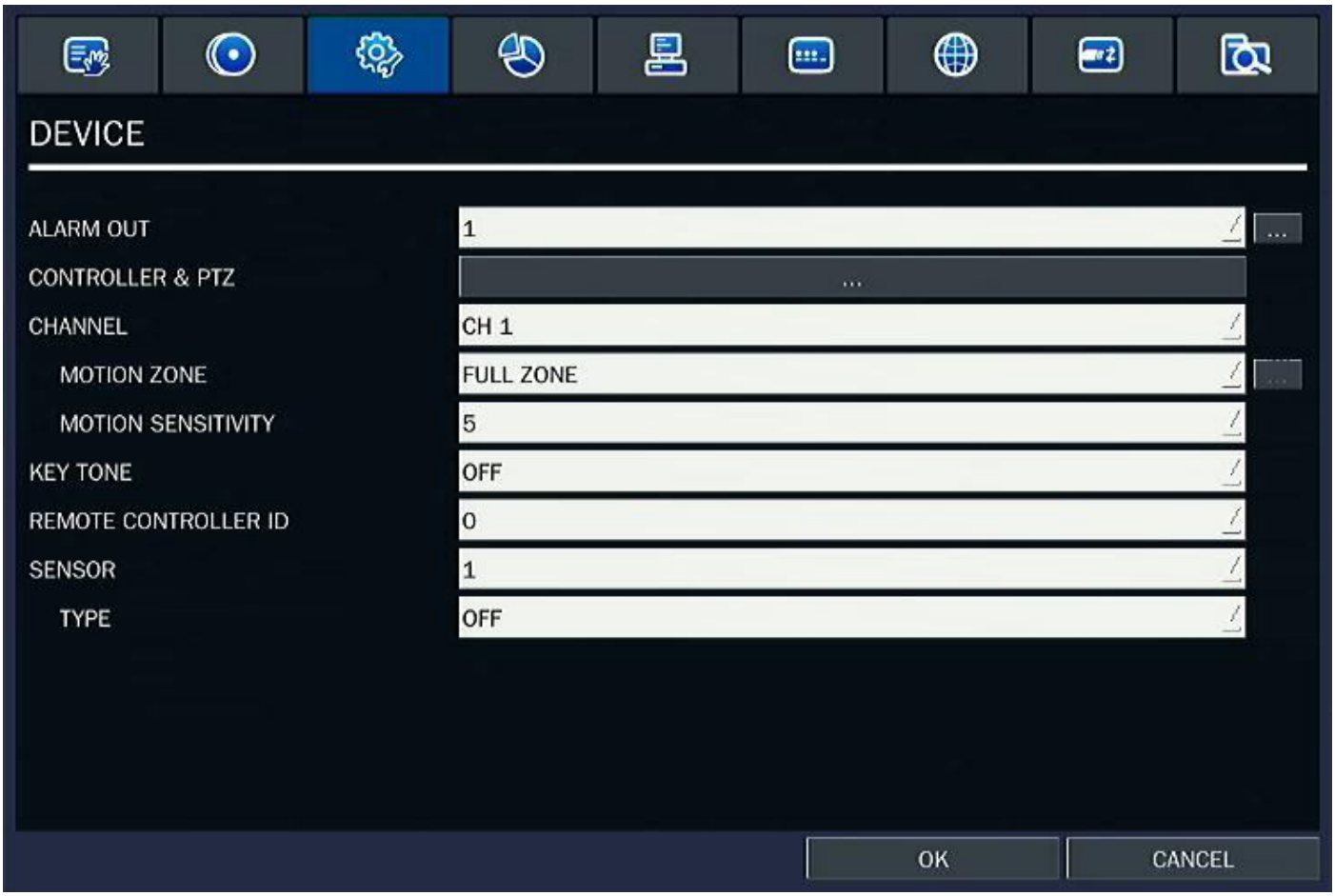


Figure 2.4.1. Device mode setup screen

Table 2.4.1. Menu items in Device Setup screen

Item	Description
ALARM OUT	Set the sensor, motion, and video loss for each alarm.
CONTROLLER & PTZ	Set the Controller and PTZ camera speed, number, type and ID.
CHANNEL	Select specified channel for motion zone setup.
MOTION ZONE	Select either Full Zone or Partial Zone for motion sensing.
MOTION SENSITIVITY	Set the motion sensitivity for the specified channel. Control the motion sensitivity from 1 to 9.
KEY TONE	Enable/disable key tone.
REMOTE CONTROL ID	Select an ID of remote control. 1. Select ID. 2. Press the same number as ID set in DVR on a remote control. 3. Then icon will be displayed on Live screen of DVR that respond to the remote control. The options are from 00 to 99

SENSOR		Select sensor NO from 1 to 4
	TYPE	Set the type of sensor for the specified channel. Options are: OFF, N/O (normal open), and N/C (normal closed).

2-4-1. ALARM-OUT

Figure 2.4.2. ALARM-OUT setup screen

Table 2.4.2. Menu item in ALARM-OUT Setup screen

Item	Description
ALARM OUT	Select an alarm out number. Available NO: 4ch (1), 8ch (2), 16ch (4)
SENSOR IN	Enable Alarm Out by Sensor up to 4/8/16 Inputs.
MOTION ON	Enable Alarm Out by Camera Motion up to 4 cameras.
VIDEO LOSS ON	Enable Alarm Out by Video Loss up to 4 cameras.
ALARM DURATION	Set the alarm dwell time from 5 to 60 seconds.
ERROR ALARM	Set the error type for the alarm activation. The options are OFF, ALL, HDD ERROR and VIDEO LOSS.

2-4-2 Controller & PTZ Setup

To control the controller and PTZ functions of the camera, connect a controller to the RS-485 port.

① Connect the RS-485 cables of Controller and PTZ camera to the RS-485 port on the rear panel.
② Press SEL button or double click to enter the menu. Then Controller and PTZ menu screen is displayed.

Figure 2.4.3. Controller and PTZ Control Setup Screen

Note: For speed dome cameras that support RS-485, connect them directly to the RS-485 port. If the camera is controlled with RS-232C, use an RS-485 to RS-232C signal converter.

On the Controller and PTZ control setup screen, you can select or set the protocol type of the camera that is the same as the one installed on the site. If the camera has a specific camera ID, select the camera ID using the control button (◀ ▲ ▶ ▼).
The following options are available on the Controller and PTZ setup screen.
CHANNEL (channel number that the Controller and PTZ is connected to)
NAME (protocol type)
SPEED (19200, 14400, 9600, 4800, 2400)
ID (0-63)

2-4-3. Motion Zone Setup

Select MOTION ZONE using the control button (◀ ▲ ▶ ▼) and select either PARTIAL ZONE or FULL ZONE using the control button (◀ ▲ ▶ ▼). And press the SEL button.
If FULL ZONE is selected, the motion setting screen is not displayed. Only set the level of sensitivity for MOTION SENSITIVITY.

FULL ZONE: The motion sensor is active on the whole screen.
PARTIAL ZONE: The motion sensor is active in the set detection frame.

Select the sensor detection position using the control button (◀ ▲ ▶ ▼) and press the SEL button.
Then the color of the position which is selected will be changed. Press ESC button to return to the DEVICE setup menu.

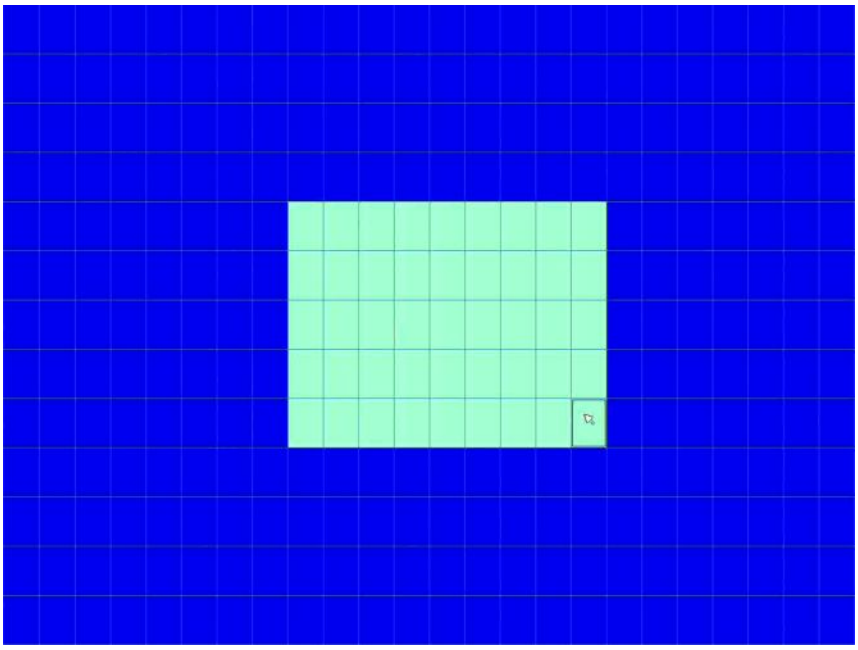


Figure 2.4.4. Motion Zone selection screen

2-5. Setup – Storage Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select STORAGE icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

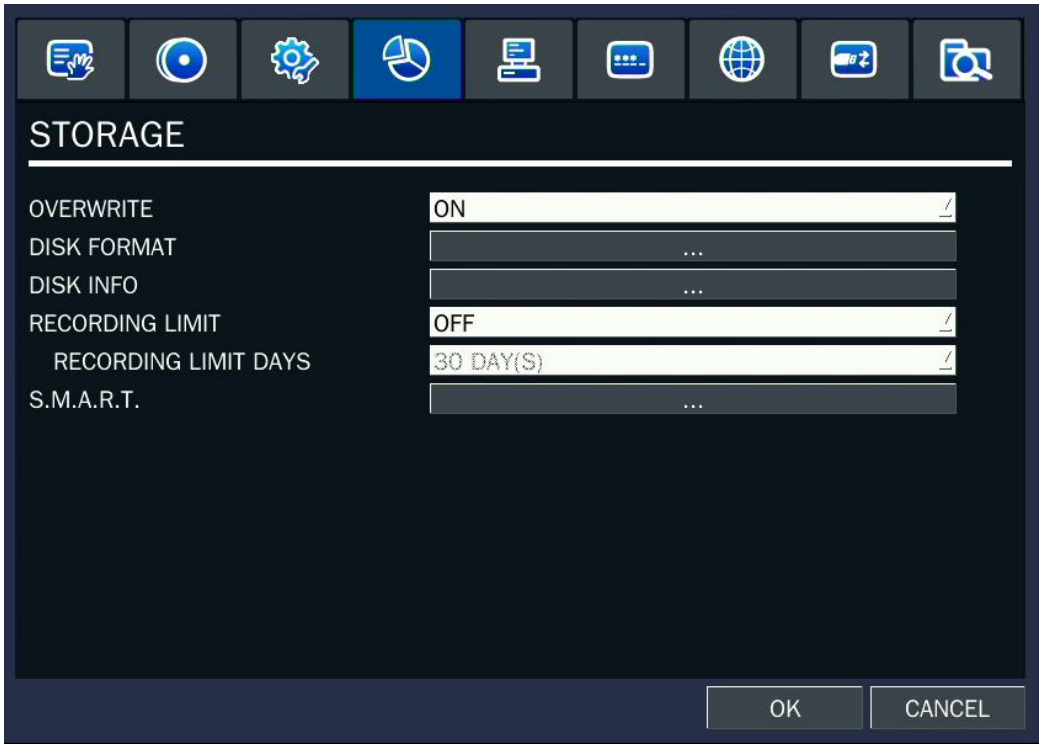
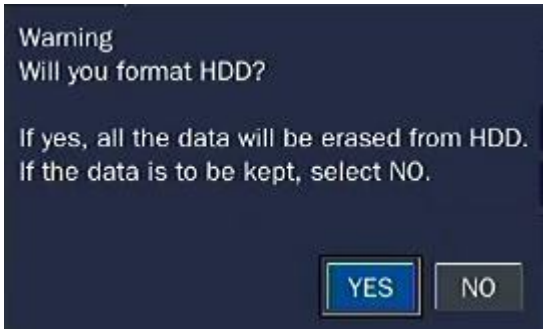
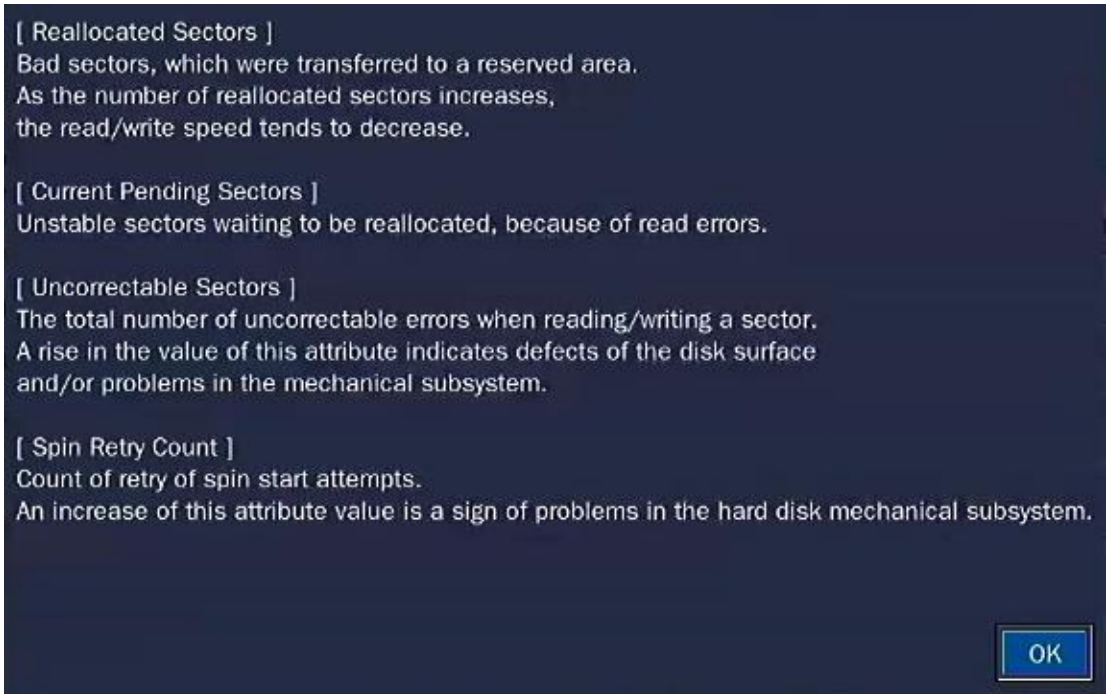


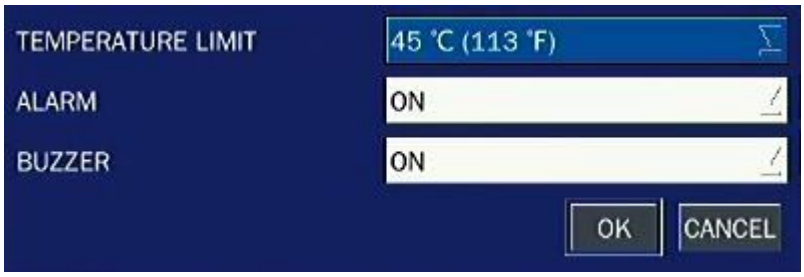
Figure 2.5.1. STORAGE setup screen

Table 2.5.1. Menu items in STORAGE Setup screen

Item	Description
OVERWRITE	When enabled, the DVR will continue recording and overwrite the oldest existing recorded data once the hard drive is full. When disabled, recording will stop once the hard drive is full.
DISK FORMAT	You will have an option YES or NO for the hard drive format. **Caution**: We recommend that you archive any data that you may need in the future before you format the hard drive. 
DISK INFO	Hard drive information


[Reallocated Sectors]
Bad sectors, which were transferred to a reserved area.
As the number of reallocated sectors increases,
the read/write speed tends to decrease.
[Current Pending Sectors]
Unstable sectors waiting to be reallocated, because of read errors.
[Uncorrectable Sectors]
The total number of uncorrectable errors when reading/writing a sector.
A rise in the value of this attribute indicates defects of the disk surface
and/or problems in the mechanical subsystem.
[Spin Retry Count]
Count of retry of spin start attempts.
An increase of this attribute value is a sign of problems in the hard disk mechanical subsystem.
OK

RECORDING LIMIT	Enable/disable recording limit.
RECORDING LIMIT DAYS	Set the recording limit days.(1- 90 days) The data will remove by the hour.
S.M.A.R.T.	Set the alarm and buzzer by setting HDD temperature limit.



2-6. Setup – System Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select

SYSTEM icon and press SEL button to enter the menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

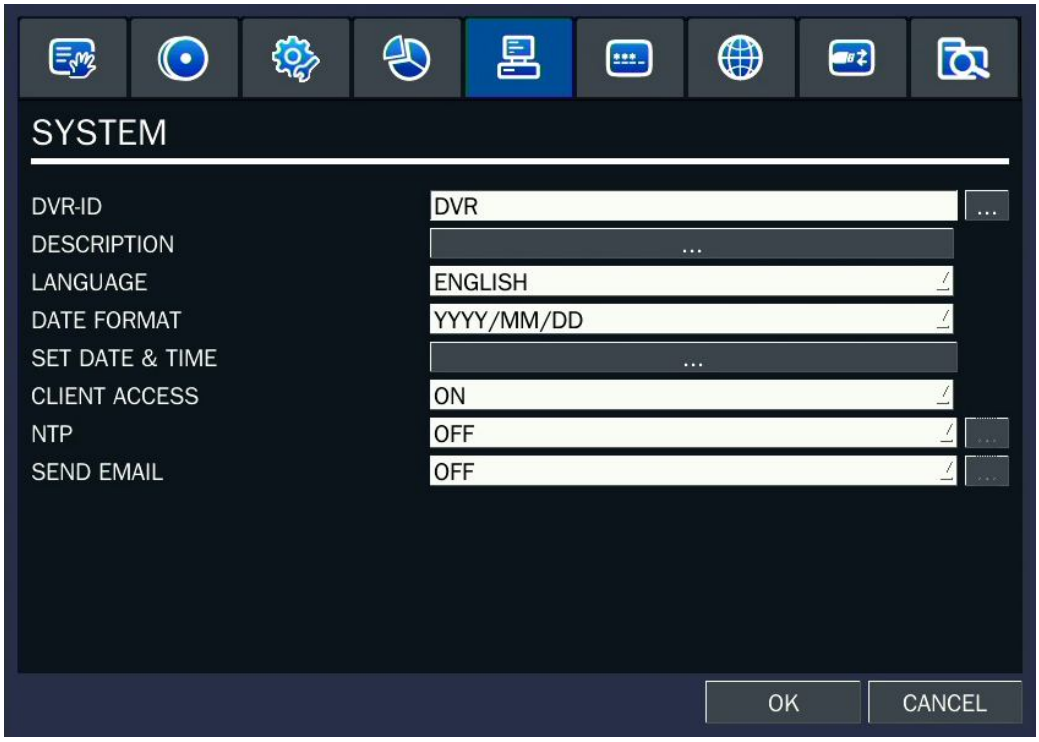


Figure 2.6.1. SYSTEM Setup Screen

Table 2.6.1. Menu items in SYSTEM Setup screen

Item	Description
DVR ID	Press the SEL button and select DVR ID using the control button (◀ ▲ ▶ ▼), and press SEL button. Press OK to apply the selected DVR ID. SPACE / Caps Lock(Select either Capital or Lower letter) BS(Back space: Erase previous character) / Clear(Erase all characters)
DESCRIPTION	Press SEL button to view system information. (Software version, Storage size, IP address and MAC address.)

LANGUAGE	Select the display language using the control button (◀ ▲ ▶ ▼). Once a language is selected, the display language changes.
DATE FORMAT	Select the date display format using the control button (◀ ▲ ▶ ▼). Options are: YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY
SET DATE&TIME	Select the display date and time using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control and press OK button to set the present date and time.

DAY LIGHT SAVING

Select DAYLIGHT SAVING using the mouse and the control button (◀ ▲ ▶ ▼) on the remote control and select the appropriate daylight saving time zone.

If choosing EU or OTHERS, set the applicable conditions.

The options are:

OFF

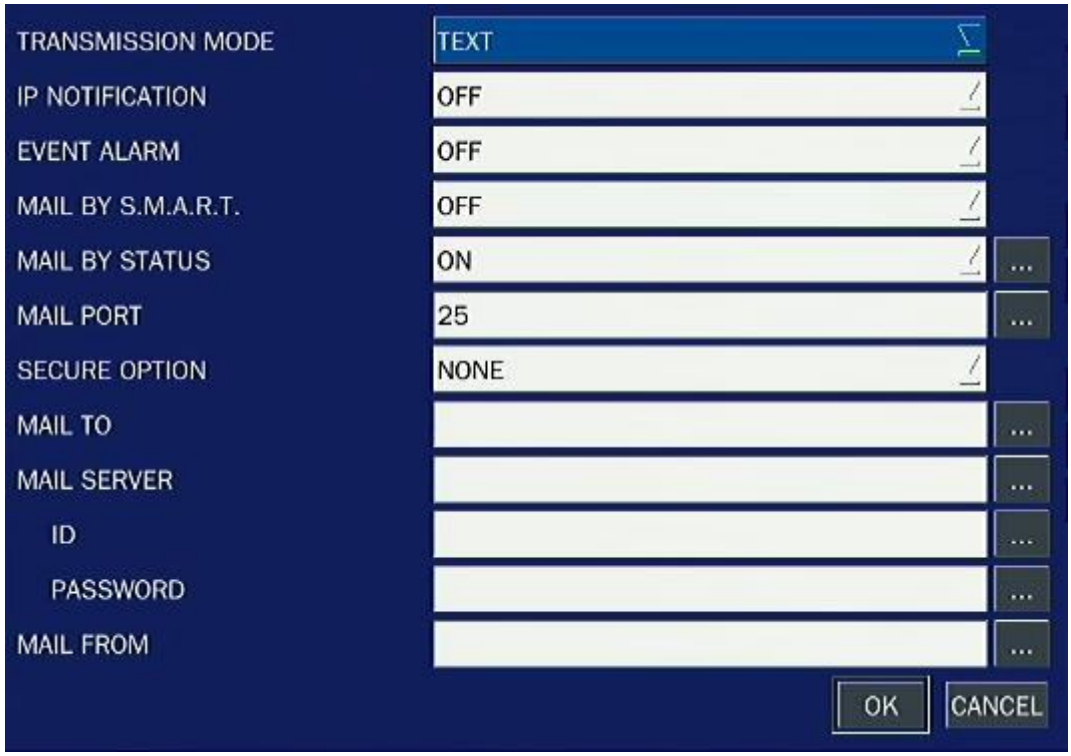
USA

EU

OTHERS

1. OFF: Daylight saving is not set.
2. USA: Applies the USA daylight saving time.
3. EU: Applies the EU daylight saving time.
   - Select the GMT AREA using the control button (◀ ▲ ▶ ▼).
   - Set the time difference with the standard time using the control button (◀ ▲ ▶ ▼).
4. OTHERS: If the time zone is neither USA nor E, set the start and end date

	of the daylight saving period. - Select BEGIN or END using the control button (◀ ▲ ▶ ▼) and press the SEL button. - Select the item using the control button (◀ ▲ ▶ ▼), select the setting value using the control button (◀ ▲ ▶ ▼) and press the ESC button to return to SET DATE & TIME setup menu. **CAUTION:** - Do not set the start time to 23:00 for DLS. - DLS can't be applied if the date of BEGIN and END is the same.
CLIENT ACCESS	Enable/Disable remote access through network client software.
NTP	NTP is an abbreviation for Network Time Protocol, which is for synchronizing the clocks of computer systems over variable-latency data networks. **PRIMARY SNTP SERVER**: Input the address of the primary NTP time server. **SECONDARY SNTP SERVER**: Input the address of the secondary NTP time server. **TIME ZONE**: Greenwich Mean Time(GMT) is a term originally referring to mean solar time at the Royal Observatory, Greenwich in London. Because NTP synchronizes with Greenwich Mean Time(GMT) regardless of geography, users must set their own time difference. (Ex.KOREA GMT+09:00) **CONNECTON MODE**: Select NTP time server connection mode. **INTERVAL**: Synchronize the clock by hours which is set on the connection period menu. **TIME**: Synchronize the clock at the time daily which is set on the connection period menu. **CONNECTION PERIOD**: 1~24
SEND EMAIL	Enable/disable the send e-mail function.(ON/OFF)



TRANSMISSION MODE: Sending an image only of the channel that triggered the alarm when an alarm event is triggered.

IP NOTIFICATION: Enable/disable sending e-mail when the IP address of your DVR is changed.

EVENT ALARM: Enable/disable sending e-mail reports on the channel that triggered the alarm when an alarm event is triggered.

MAIL BY S.M.A.R.T: Enable/disable sending e-mail when the temperature of S.M.A.R.T. of HDD is over.

MAIL BY STATUS: Enable/disable sending the system information by monthly, weekly or timely.

MAIL PORT: To set a mail port; SSL(465) or TLS(587)

SECURE OPTION: To set a secure option; SSL(465) or TLS(587)

MAIL TO: Enter the appropriate email address to enable sending e-mail reports using a virtual keyboard.

MAIL SERVER: Enter the appropriate mail server information to enable sending daily e-mail reports using a virtual keyboard.

ID: To set the connection user ID for the mail server using a virtual keyboard. (ex.ID@yahoo.com)

PASSWORD: To set the connection password for the mail server using a virtual keyboard.

MAIL FROM: To set the mail address sent to the destination host using a virtual keyboard.

2-7. Setup – SECURITY Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select SECURITY icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button

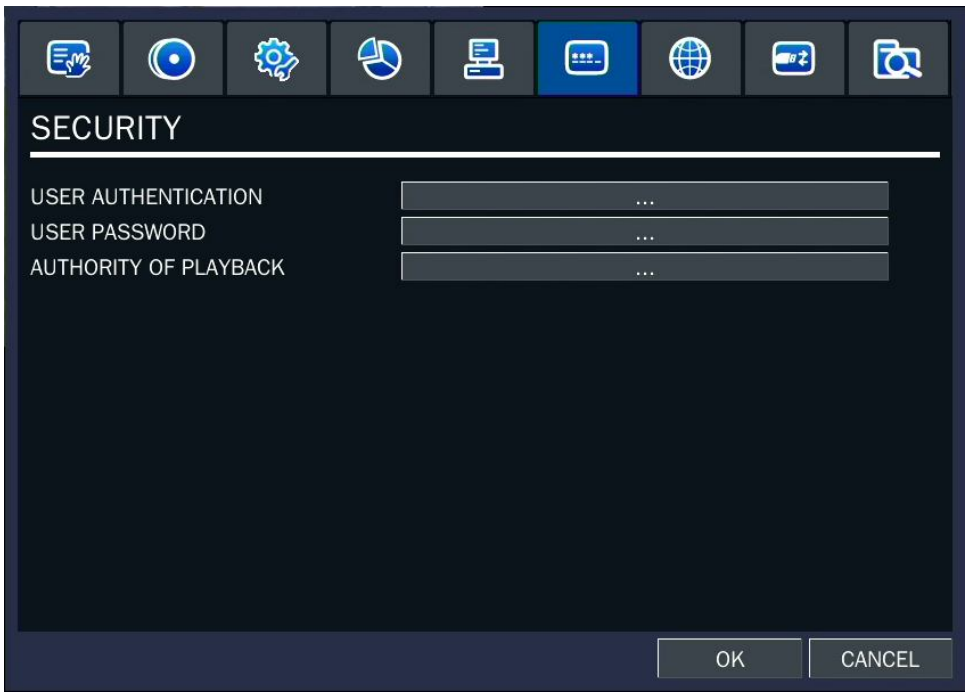
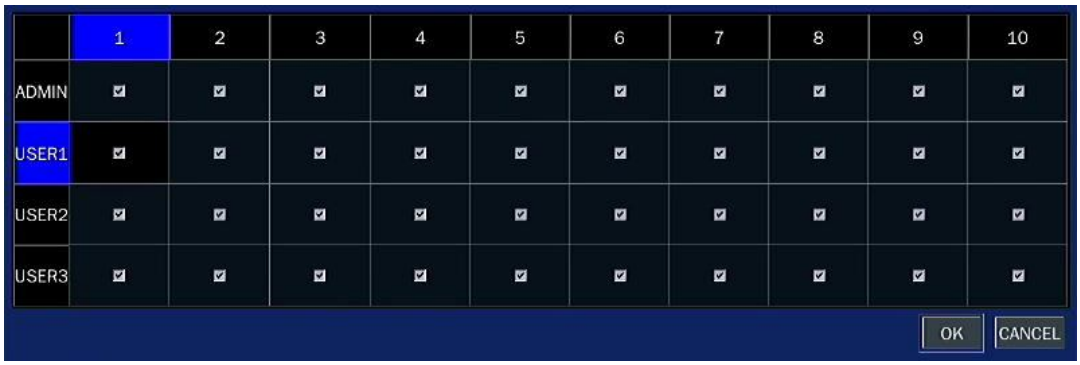


Figure 2.7.1. SECURITY setup screen

Table 2.7.1. Menu Items in SECURITY Setup Screen

Item	Description
USER AUTHENTICATION	**PASSWORD CHECK:** Check either V or blank for the functions such as **Setup, Playback(PB), PTZ, Record OFF(R/OFF), and Network**. V: Ask for a password when the given function is selected for all users. Blank: Does not ask for a password when the given function is selected for all users.
USER PASSWORD	**ADMIN, NETWORK, USER1, USER2, USER3:** Options are ADMIN, USER1, USER2 and USER3.

	Select USER PASSWORD using control button (◀ ▲ ▶ ▼) and press SEL button. Select user type using the control button (◀ ▲ ▶ ▼) and SEL button. Enter the current password and select OK. Enter the new password and select OK. Enter the same password again to confirm and select OK. Then the message "PASSWORD CHANGED" is displayed. The factory default password is **1111**.
AUTHORITY OF PLAYBACK	Enable/disable a covert function in playback mode by channel. V: No covert. Blank: Covert 

2-8. Setup – Network Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select NETWORK icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button

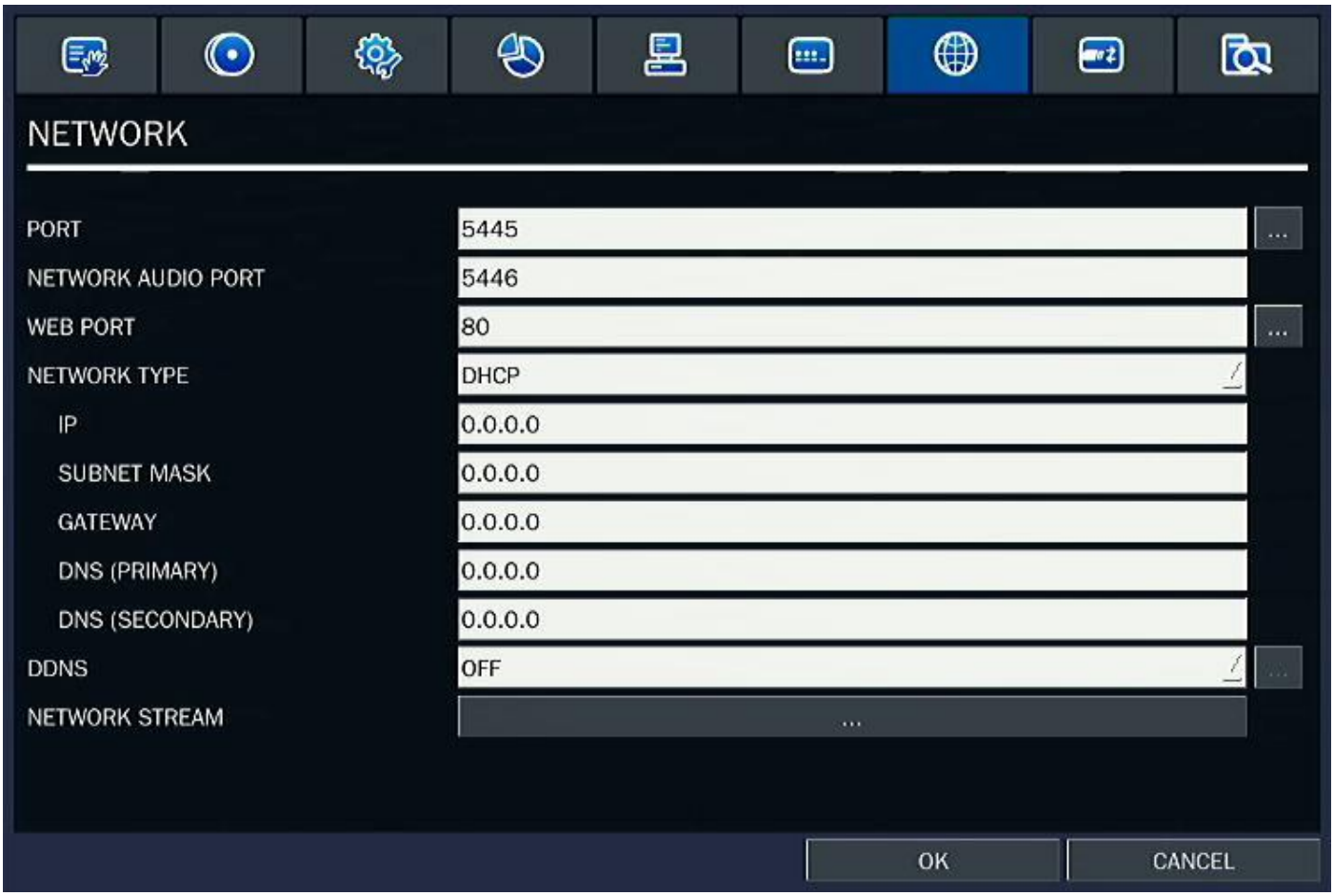


Figure 2.8.1. NETWORK setup screen

Table 2.8.1. Menu items in Network Setup screen

Item	Description
PORT	Port number (Default: 5445)
NETWORK AUDIO PORT	Port number (Default: 5446)
WEB PORT	Web Sever Port number (Default: 80)
NETWORK TYPE	Select a type of network connection. Options are: DHCP and STATIC Note. Other parts of the network setup screen change depending on what network type you select.
DHCP	DVR automatically get IP varying from time to time from network and does not therefore need to be set.
STATIC	Assigned to an Internet service provider (ISP) to be its permanent address on the Internet.
DNS (PRIMARY)	The address for the primary DNS server
DNS (SECONDARY)	The address for the secondary DNS server
DDNS	OFF – Disable DDNS

	"SERVER 1" : Using free DDNS server "SERVER 2" : Using Customers own DDNS server "SERVER 3" : Using free Auto DDNS server **CAUTION**: Do not change this sever name. If this is changed, the DDNS service cannot be available. **DDNS INTERVAL**: Set the connection interval (5-60minutes)
NETWORK STREAM	Set the value for network streaming.

2-8-1. Port, Network Audio Port and Web Port

When you connect one or more DVRs to a network through an IP sharing device, each device must have a unique TCP port number for access to each unit from outside the LAN. Also, the IP sharing device must be configured for port forwarding so when each port is accessed on the IP sharing device, it will forward to the appropriate DVR.

Note: This port number is listed next to the Port menu option in the Network Setup screen. If you plan to access the DVR units only from within the same LAN, the TCP port does not have to be changed.

Network access beyond a router

In order to access the DVR remotely beyond a router (firewall), the user must open TCP port for command level, live/storage channels. User need to open port number 5445 and 5445.

If the DVR supports remote setup and upgrade function over the network, user need to open additional port number 80.

Web viewer Network access beyond Router

In order to access beyond Router (Firewall), user must open 1 TCP port that is set on NETWORK > WEB PORT. If this port is not open properly, user can not access DVR using direct Web viewer (Example: When NETWORK > WEB PORT is set as 80, 80 TCP port of IP address of DVR must be open.)

2-8-2. Network Types

2-8-2-1. DHCP

An IP address is automatically assigned by the DHCP server, which automatically assigns IP address and other parameters to new devices.

When ADSL or other network being used adopts variable IP method, not fixed IP. This option is used as a way to automatically get IP address.

2-8-2-2.STATIC

1. For the use of fixed IP.

(See your network administrator if you do not have this information.)

2. When DVR is installed in IP sharer that is connected with ADSL, a user can assign fixed IP to DVR from IP sharer itself using “DMZ” function out of such sharer.

Input IP set in DMZ on “IP” field and Gateway of ADSL modem on “Gateway” field. Similarly, for Subnet Mask, DNS address, input relevant values in IP sharer.

Table 2.8.2. LAN

Item	Description
IP	The fixed IP address of the DVR unit.
SUBNET MASK	The subnet mask for the LAN
GATEWAY	The IP address of the Gateway
DNS (PRIMARY)	The address for the DNS server
DNS (SECONDARY)	The address for the DNS server

2-8-3. DDNS

① **SERVER1**

Select Server 1 to setup a DDNS using okddns.com server. oknnds.com is a free service. Go to okddns.com and click on DDNS REGISTRATION. Enter your DVR's MAC address (found in the System Info tab). Enter a desired Domain Name and click on Validate Duplication. If the Domain Name you have selected is available, click Register to complete the registration. Once you are done with configuration in the okddns.com website, select Server1 in the DDNS drop down list, and select okddns.com in the Server1 DDNS Server Name. Set the DDNS interval from 5~ 60 minutes. This sets how often the DVR will test if the DHCP IP Address has changed.

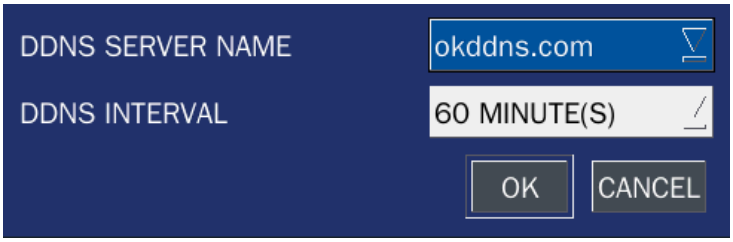


Figure 2.8.2. Network setup screen – DDNS Server 1

② **SERVER2**

dyndns.com. You can use this option if you wish to setup a Domain Name using the dyndns.com server. Note: This service requires subscription and payment.

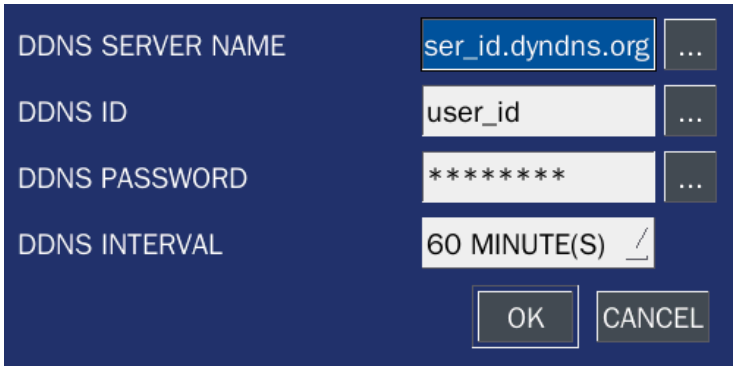


Figure 2.8.3. Network setup screen – DDNS Server 2

③ **SERVER3**

Auto DDNS. This is an easy auto DDNS setup feature. If selected, the DVR will automatically register itself with okddns.com. This feature will setup DDNS automatically for you. In addition, unlike in Server1 option, this option will provide you with DVR health checking and additional features such as UPnP, at no cost to you.

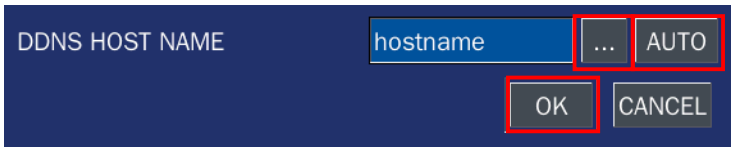
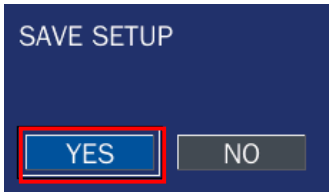
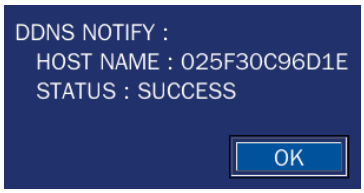


Figure 2.8.4. Network setup screen – DDNS Server 3

- **How to use Server 3**

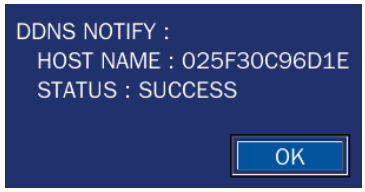
1. You can input your hostname what you want and select 'OK' in order to register and checking the success status as below picture.





If you failed auto register then status will show a 'Not Registered MAC' message.

2. If you don't want to put the hostname, select 'AUTO' and 'OK'. MAC address appear when you selected 'AUTO' and this MAC address be a host name.



3. If you want to change the host name, input the hostname and 'OK'

2-8-4. NETWORK STREAM

User can set the Resolution, the frame rate and the quality for a network stream classified by channel.
It is recommended that user should adjust each item to proper level to get the network service smoothly.

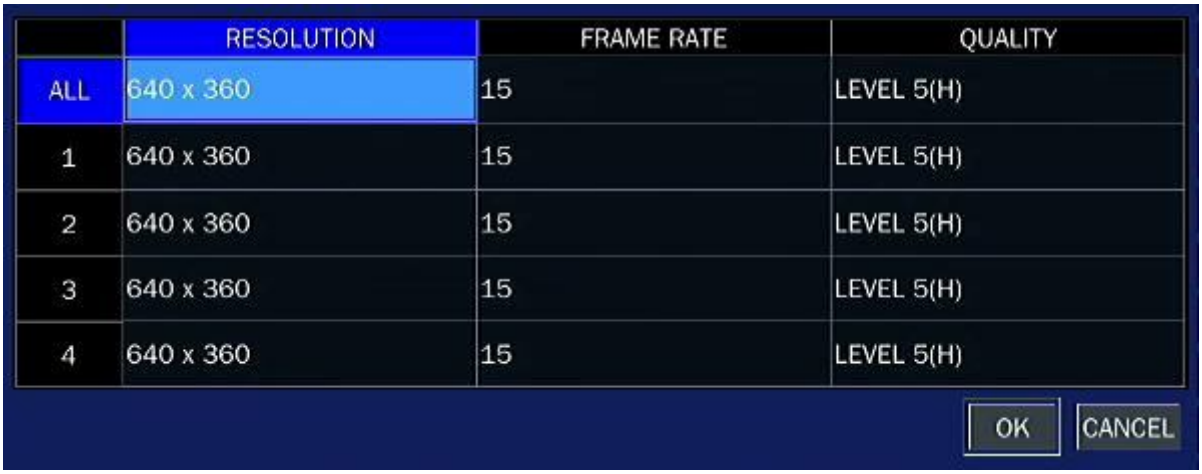


Figure 2.8.4. Network setup screen – Network Stream

2-9. Setup - CONFIG Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select CONFIG icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button

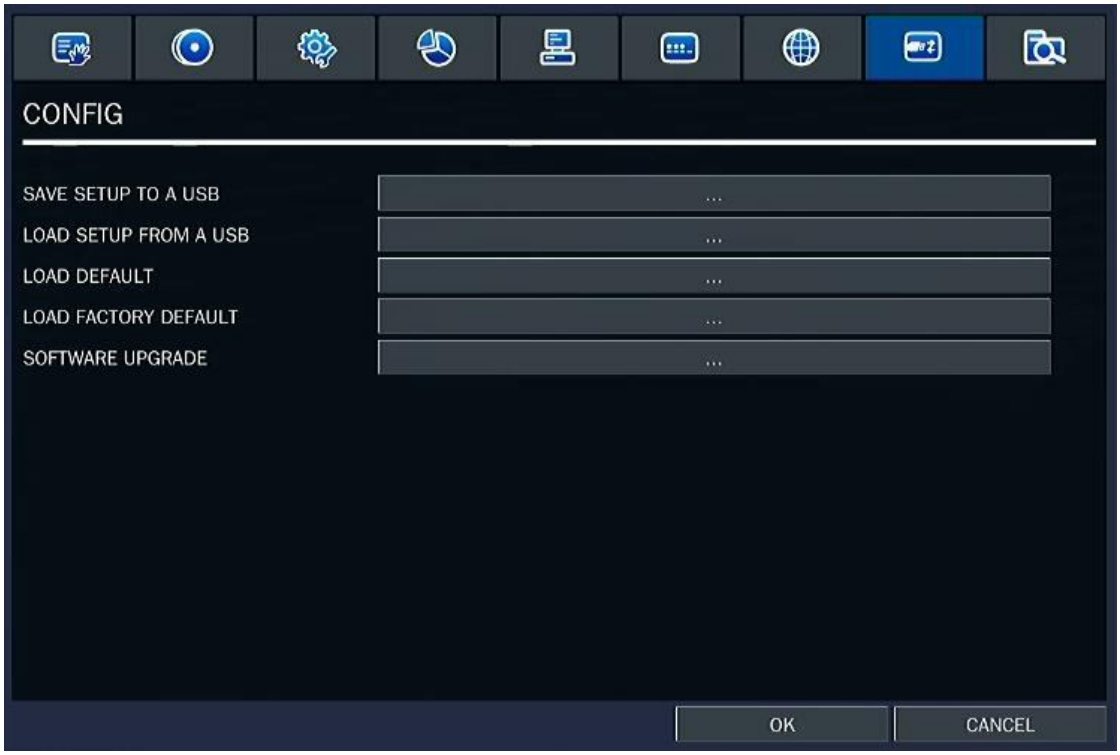


Figure 2.9.1. Config setup screen

Table 2.9.1. Config setup

Item	Description
SAVE SETUP TO A USB	User can save the current configuration (Setting values) of DVR to the USB memory stick. Put the USB stick on the front panel and press SEL to start the saving process.
LOAD SETUP FROM A USB	User can upload the configuration of DVR to another DVR using the USB Memory stick. Put the USB stick on the front panel and press SEL to start the loading process.
LOAD DEFAULT	Select ON to reset the system to the default settings. (The follow setting such as Language, DVR ID, Security User Authentication, Security User P/W, Date format, DLS setting, Network setting, HDD serial number and HDD error time will not be included.)
LOAD FACTORY DEFAULT	Select ON to reset the system to the factory default settings.
SOFTWARE	User can upgrade the latest firmware to this menu. Please refer to 7.

UPGRADE	Upgrading Firmware.

2-10. Quick Setup

In the MENU, select the QUICK SETUP tab. Then, the QUICK SETUP menu is displayed as pictured below. Navigate through the menu items using the mouse or the control button (◄ ▲ ► ▼) on the remote control and change the value of the menu item.

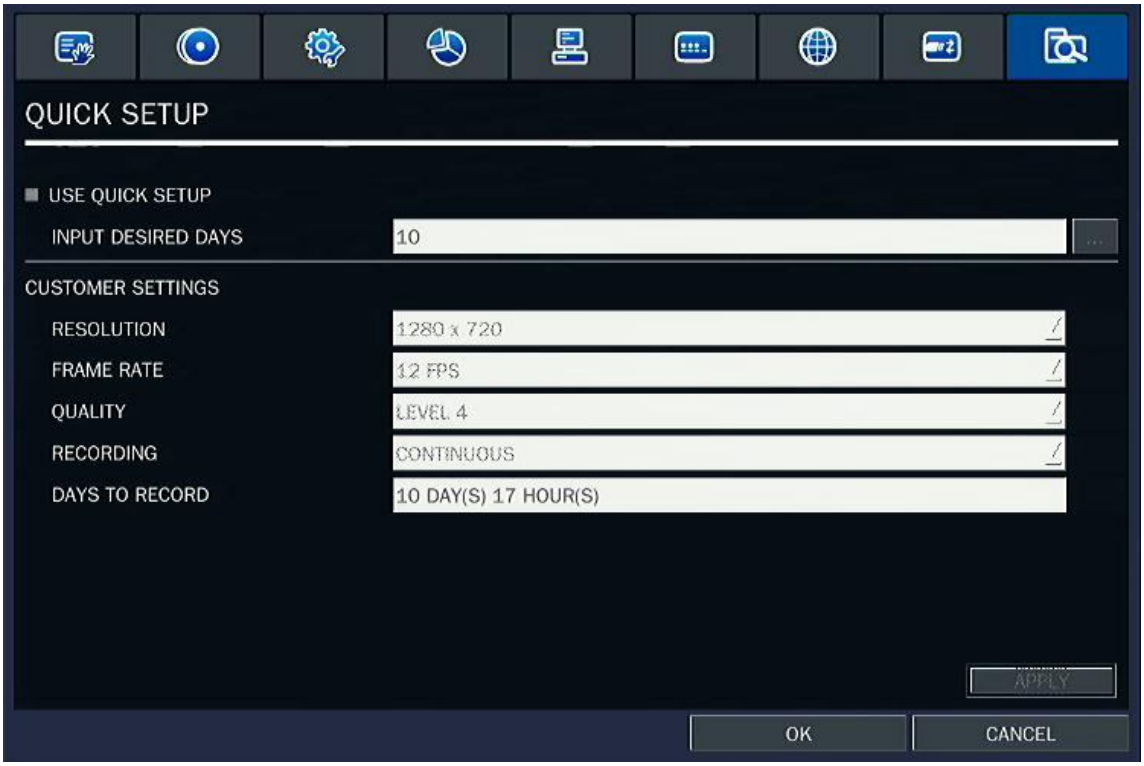


Figure 2.10.1. Quick Setup Screen

The QUICK SETUP has high priority than other setting values on RECORDING and NETWORK menu. The QUICK SETUP also cannot set to classified according to channel.

Table 2.10.1. Quick Setup

Item	Description
USE QUICK SETUP	Select the Checkbox to use the Quick Setup. When user inputs the DESIRED DAYS to record, the system displays a recommended record mode, resolution, frame rate, quality and recording type after calculating the capacity of the installed HDD. At that time, the priority is followed by the order of the items; record mode, resolution, frame rate, quality and recording type.
CUSTOMER SETTINGS	User can change the setting value such as record mode, resolution, frame rate, quality and recording type. By the setting value, the DAYS TO RECORD will change.

2. Saving Setup

To preserve the setup values that you have changed, select YES.

3. Live, Search, and Playback

4-1. Live Viewing Screen

In the Live screen, video inputs from the cameras are displayed as they are configured in the Display Setup screen. Various on-screen display (OSD) symbols, which indicate the status of the DVR, are described in Table 4.1.1.

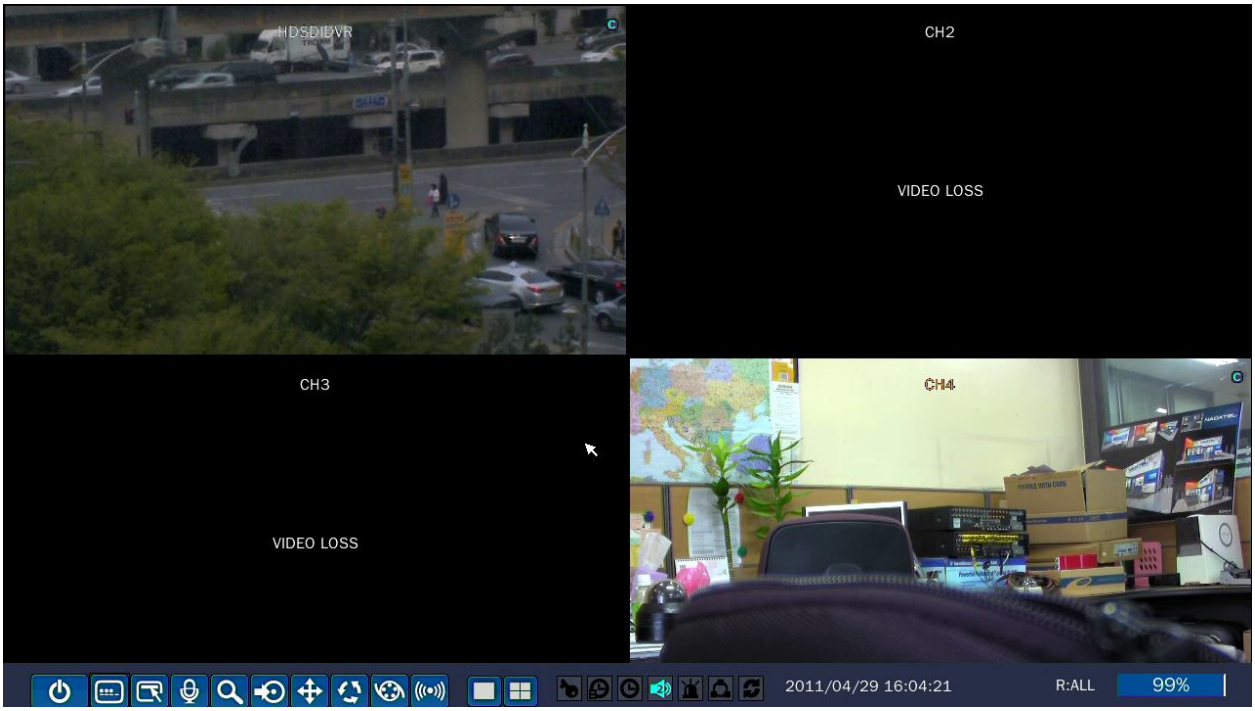
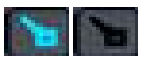
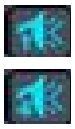
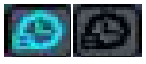
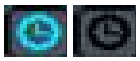
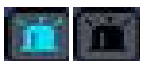


Figure 4.1.1. Live Viewing Screen

Table 4.1.1. Status Indicator Icons in Live Viewing Screen

Icon	Description
	Click the power icon when you want to shut it off by mouse
	Click the LOCK icon when you want to lock and unlock the DVR by a mouse
	Click the SETUP icon on the screen using the mouse to see menu items. Select menu item (SETUP, SEARCH, RECORD, PTZ, SEQUENCE, AUDIO or ALARM-OUT) using the mouse to enable/disable its functions
	Click the AUDIO icon when you want to activate the audio using a mouse
	Click this SEARCH icon when you want to play back and search from the recorded data using a mouse
	Click this PTZ icon when you want to control the PTZ cams using a mouse

	Click this SEQUENCE icon when you want to activate the sequential screen
	Click this MANUAL RECORD icon when you want to manually record
	Click this ALARM OUT icon when you want to activate alarm out
	Click the split screen icon to change the current split screen mode using the mouse or SEL button.
2009/04/14 17:23:40	Displays the current date and time
R:A	Remote control ID display. If no remote ID is set the message “ALL” is displayed.
15%	Displays the amount of recording on the hard disk from 0-100%.
	Indicates that HDD is recycled.
	Continuous recording in progress.
	Manual recording in progress. To set the Manual recording mode, press the Record button on the front panel.
	Motion alarm recording in progress.
	Sensor recording in progress.
	Indicates that lock activated, this icon will be back to black color when unlock.
	Audio mute. To set audio mute, press the Audio button on the front panel.
	Single audio display. To set audio single for highlighted channel only, press the Audio button on the front panel.
	Indicates that alarm is set. To set the alarm function, press the Alarm button on the front panel.
	Indicates that alarm output is activated.
	Event indicator. When there is an event (motion recording, video loss, HDD fail, S.M.A.R.T), this icon will be highlighted bright.
	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.

4-2. SEARCH Screen

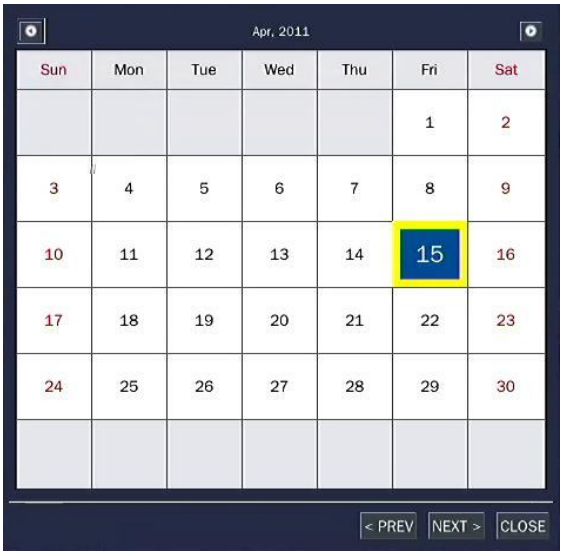
To enter the search screen, select SEARCH menu on the screen using the mouse or press SEARCH icon on live screen.

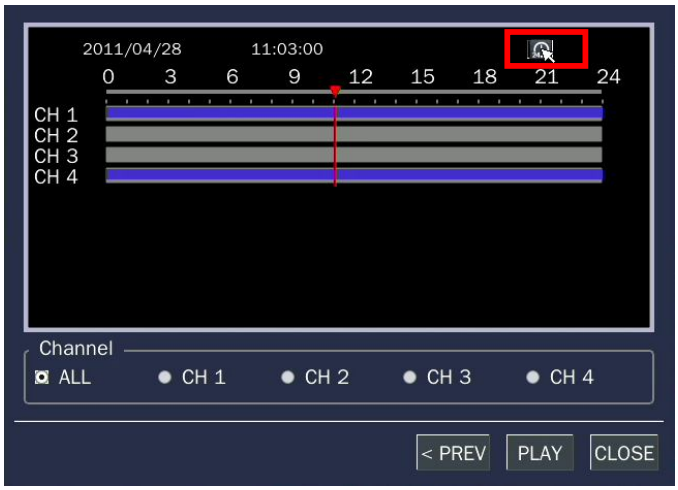
Figure 4.2.1. Search Screen

There are 7 ways of search menu such as TIMELINE, EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, ARCHIVE and LOG on the screen.

4-2-1. TIME-LINE Search

The TIME-LINE search window is used to find the stored video by using the time line bar.





When it clicks a Timeline menu, user can see a calendar which has recording data. Select a specific date and time. Use a drag-and-drop function of the mouse control. User can select a specific minutes using a button in the above red box. Press a PLAY button after setting a specific time. Press the PREV to return to the SEARCH window.

4-2-2. Event Search

The Event Search window is used to find stored video.

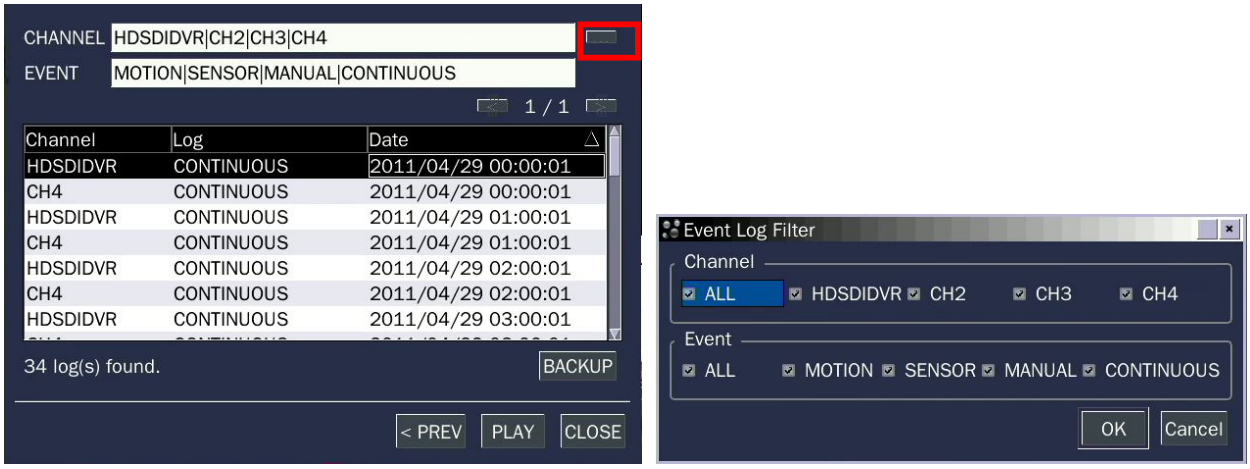


Figure 4.2.2. Event Search screen

When it clicks an Event menu, user can see a calendar which has recording data. Select a specific date and then user can see all data. Press a PLAY button to playback the data or a SAVE button to save the data at once after selecting a specific data. User can find a data of the specific channel and event using a button in the above red box. Press the PREV to return to the SEARCH window.

4-2-3. Go To First Time

You can access from the oldest recorded data on the DVR hard drive by selecting GO TO FIRST TIME on the SEARCH window. Press the PREV to return to the SEARCH window.

4-2-4. Go To Last Time

You can access from the last minute recorded data on the DVR hard drive by selecting GO TO LAST TME on the SEARCH window. Press the PREV to return to the SEARCH window.

4-2-5. Go To Specific Time

Figure 4.2.3. Go To Specific Time

User can search for video data from a specific instance by setting the date and time in the Go To Specific Time menu. Use the mouse or the control button (◀ ▲ ▶ ▼) on the remote control to change the date and time value and press the PLAY button after setting. If there are no the video data in the set

date and time, the DVR will play the latest video data.

4-2-6. Archive Search

The ARCHIVE Search window is used to find previously stored video or images.

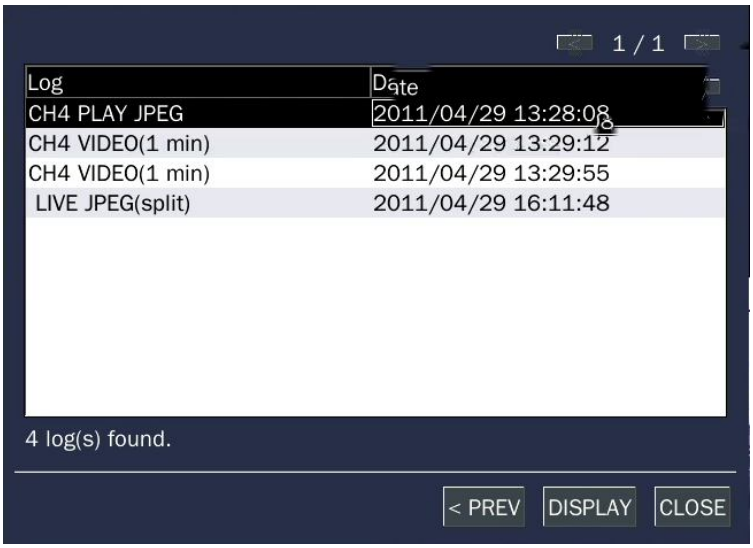


Figure 4.2.4. Archive Search Screen

When it clicks an Archive menu, user can see a calendar which has recording data. Select a specific date and then user can see all data. When it presses a Display button, the still image or the first frame of the selected video is opened and user can save the data.

4-2-7. Log Search

You can access the LOG list search screen by selecting LOG on the SEARCH window.

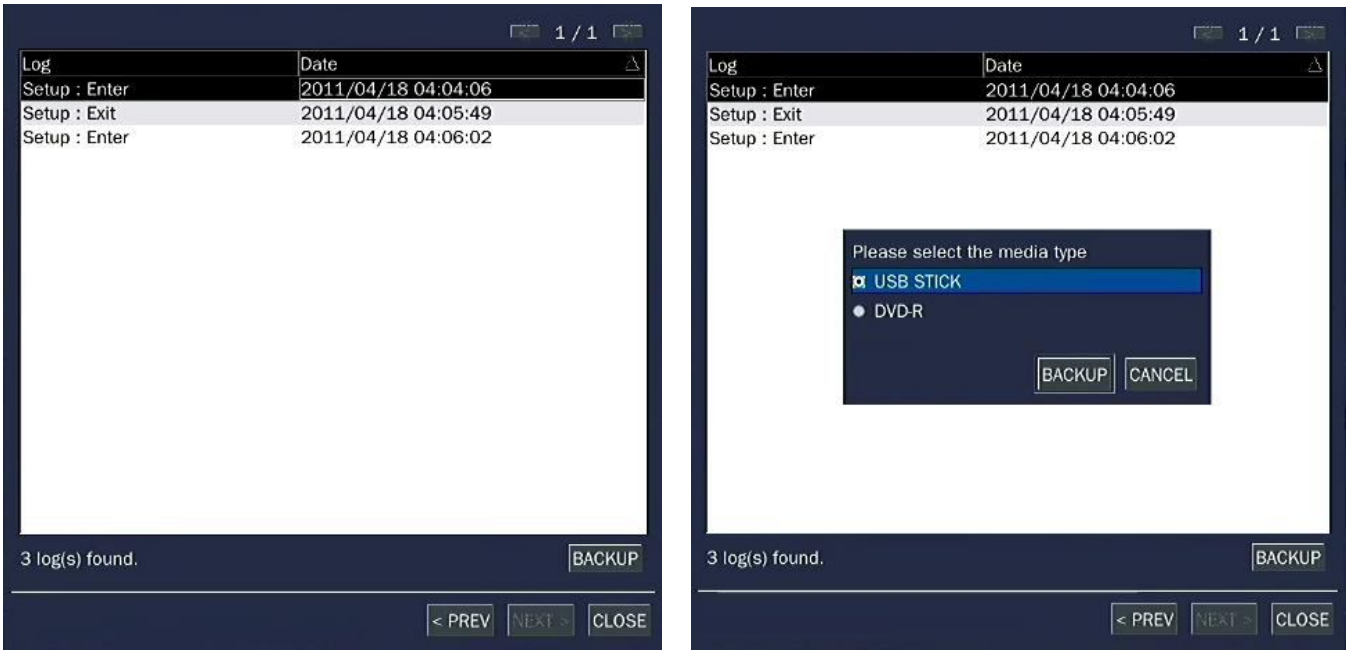


Figure 4.2.5. Log Search Screen

When it clicks a Log menu, user can see a calendar which has recording data. Select a specific date and press NEXT button. Then user can see all log data. Press SAVE button to save the data and then the data is saved to text file format.

4-3. Play mode

During playback of a recorded event, the mode changes from SEARCH to PLAY. While in PLAY mode, you may return to the SEARCH screen by pressing the X button on the status bar or the ESC button of a remote control.

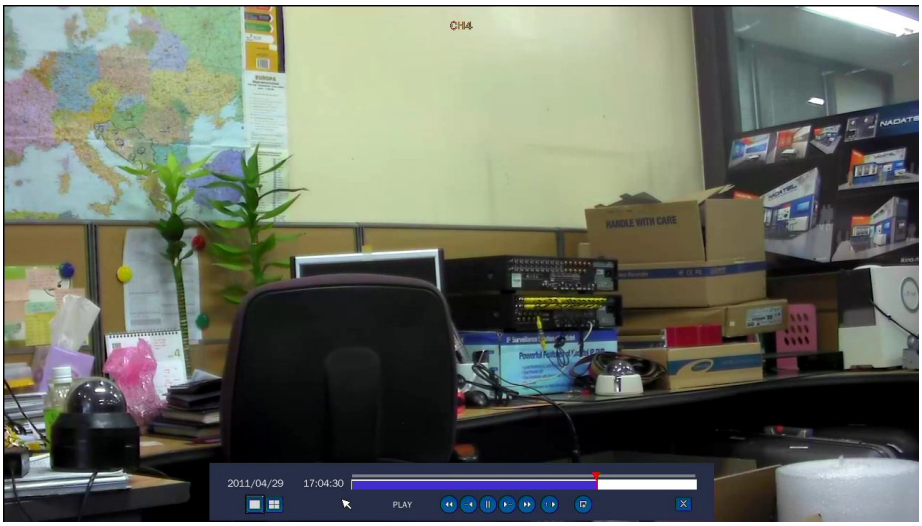


Figure 4.3.1. PLAY Mode Screen

The following status bar hides automatically and appears again when putting a mouse pointer to the bar.

Table 4.3.1. Button functions in PLAY Mode

Button	Description
	Return to the previous menu screen, search window, or exit from the Menu
◀◀	Press to rewind the footage at 1x, 2x and 4x speeds. Reverse playback speed is shown as -1x(normal), -2x (2 times normal) and -4x (4 times normal) at the bottom right of the screen.
--◀	Jump/Step backward. The playback position moves 60 seconds backward.
▶/ II	Press to play or pause recorded video.
▶--	Jump/Step forward. Playback position moves 60 seconds forward.
▶▶	Press to fast forward the footage at 1x, 2x and 4x speeds. Playback speed is indicated as +1x, +2x and +4x for normal, twice and 4 times of the regular speed at the bottom right of the screen.
	Press to backup the video.

5. PTZ Control

To control the PTZ functions of the camera, select PTZ menu on the screen using the mouse. Select the item you wish to control the PTZ camera and control them using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control. Please refer to the table 5.1. for the control.

Figure 5.1. PTZ Control Screen

Table 5.1. Button Functions in PTZ Control

Item	Description
INITIALIZE	Initialize the PTZ settings of the selected camera.
PAN / TILT	Select PAN/TILT using the mouse or the control button (◀ ▲ ▶ ▼) and press SEL button on the remote control. Adjust the tilt(UP/DOWN) / pan(LEFT/RIGHT) position using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control.
ZOOM / FOCUS	Select ZOOM/FOCUS using the mouse or the control button (◀ ▲ ▶ ▼) and press SEL button on the remote control. Adjust the zoom(Mouse Wheel Down or Up/Down button of the remote control)/focus(Mouse Wheel Up or Left/Right button of the remote control)position.
OSD	Select the OSD to enter the menu. Control keys are Right, Left, UP, Down, Select, Far (REW KEY), and Near (FF KEY). Press the ESC button to return to the main menu. Press the PTZ button to escape from the OSD menu.
AUTOSCAN	Press the right key (▶) on the control button to start auto scan Press the left key (◀) on the control button to stop auto scan.
PRESET	Select the PRESET and press the left key (◀) on the control button. Then, number input window will appear. Set the number (3 digits) using the number key and press the SEL to set the preset number for the current position. Press the right key (▶) on the control button and set the number (3 digits) to go to the preset number.
TOUR	Select the TOUR and press the right key (▶) on the control button. Then, number input window will appear.

	Set the number (1 digit) using the number key and press SEL to make the group number work. Press the left key (◀) on the control button to stop tour. User can set the preset number in the tour group of the OSD menu.
NUMBER	Avail ble only on the TOUR and PRESET menu.
	Press the ESC button to return to the main menu.

- **Preset/ Tour/ OSD/ Autoscan function are available on the specific model AP8777 and PMA-200.** (Select it in the NAME of PTZ setup menu)

6. Back up

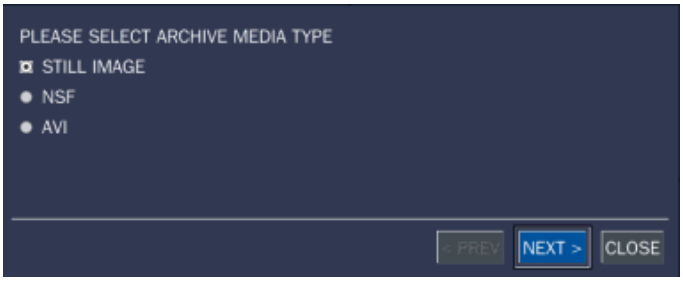
6-1. Video or still image backup onto USB flash memory

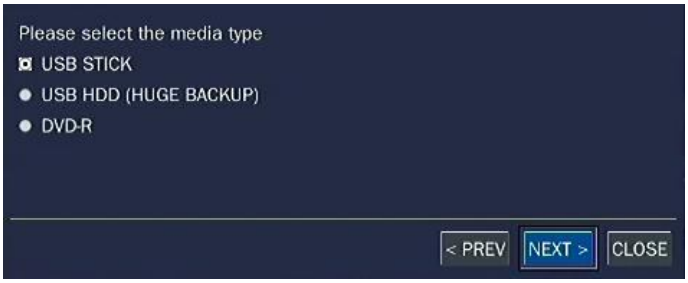
Video or still image can be captured and archived onto the USB stick or hard drive while playing back recorded video.

<NOTICE For a backup using a USB stick, a format of the USB stick has to be set to FAT32.>

In playback mode, press the BACKUP button to launch the archiving function.

1. When you press BACKUP button, the DVR will ask whether to archive a Still Image or Video clip.
2. If the user selects VIDEO, the DVR will ask for the media. To use the huge backup, the external USB HDD has to be mounted.
3. After selecting the media, the DVR will ask for the channel and the setting of the archiving duration. If the huge Backup is selected, the duration is from 1 hour to 24 hours.
4. After selecting the channel and setting of the duration, the system will start to archive the data to the selected media.





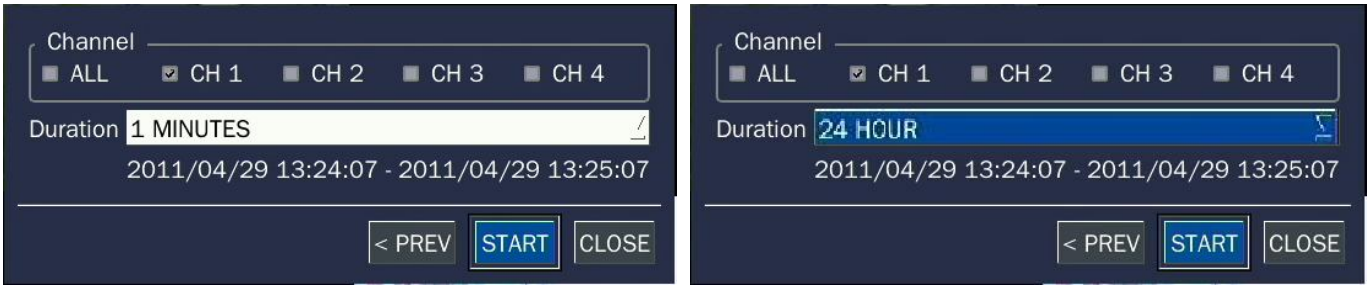


Figure 6.1.1. Video Archiving and Backup Screen

6-2. Transferring still images or video from the ARCHIVE list

The stored data onto hard drive will be found in the ARCHIVE list in SEARCH window.

User can back up still images or video into the storage device from the ARCHIVE list.

1. Select the date to begin searching and navigate through the days using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control.
2. Once you have selected the date, press NEXT button to open the list of stored data.
3. Use the mouse or the control button (◀ ▲ ▶ ▼) on the remote control to scroll through the on-screen listings.
4. Select a list of stored events that happened previous to or after the current selection.
5. Once the desired event has been selected, press NEXT button to view the still image or the first frame of the selected video.
6. Press the BACKUP button to launch the archiving function in playback mode.
7. Press CLOSE button to return to the SEARCH window.

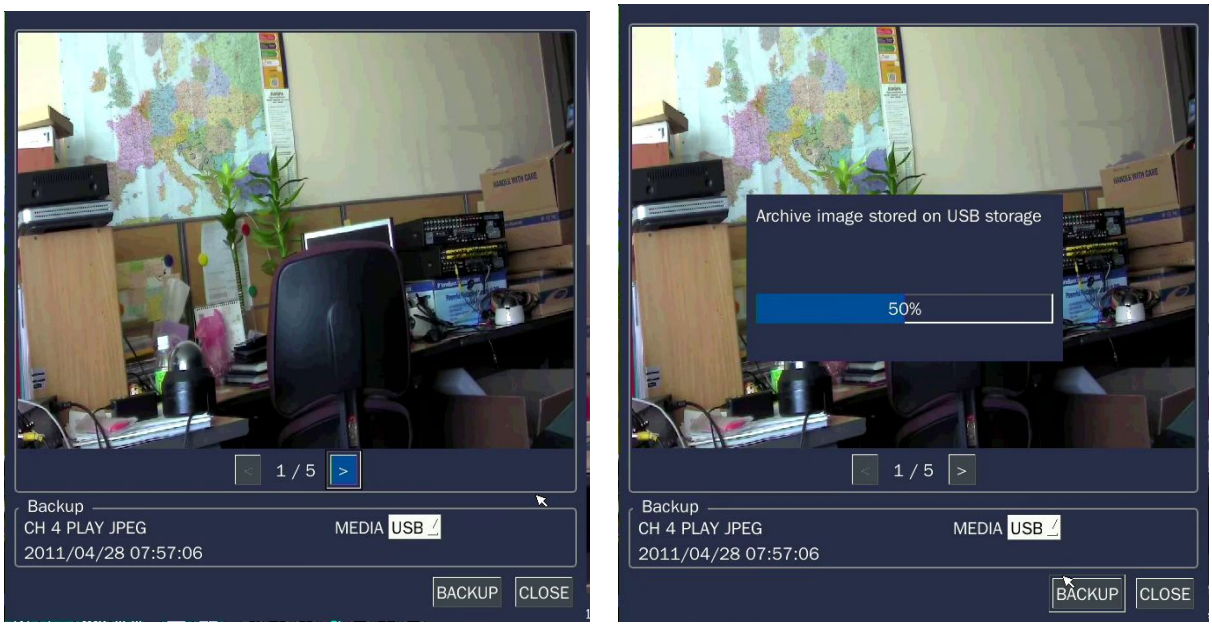


Figure 6.2.1. Archive Search Screen

6-3. Playback of Backup Video

- NSF format: NSF format video can be played back by the player (the HD player) that the DVR copies on USB thumb drive with video.

  Two folders are copied on USB thumb drive

  - BACKUP DATA: NSF format video file and INDEX file for a title file of date and time
  - HD PLAYER: Exclusive video viewer.

- AVI format: It can be played back by Window Media Player™ or other media player that is compatible with AVI format video.

7. Upgrading Firmware

In order to upgrade, the firmware upgrade file must first be downloaded and copied into the USB memory stick. Create a new folder in the USB memory stick and name it “upgrade”. Copy the firmware upgrade file “xxxxxx.bin” into the “upgrade” folder.

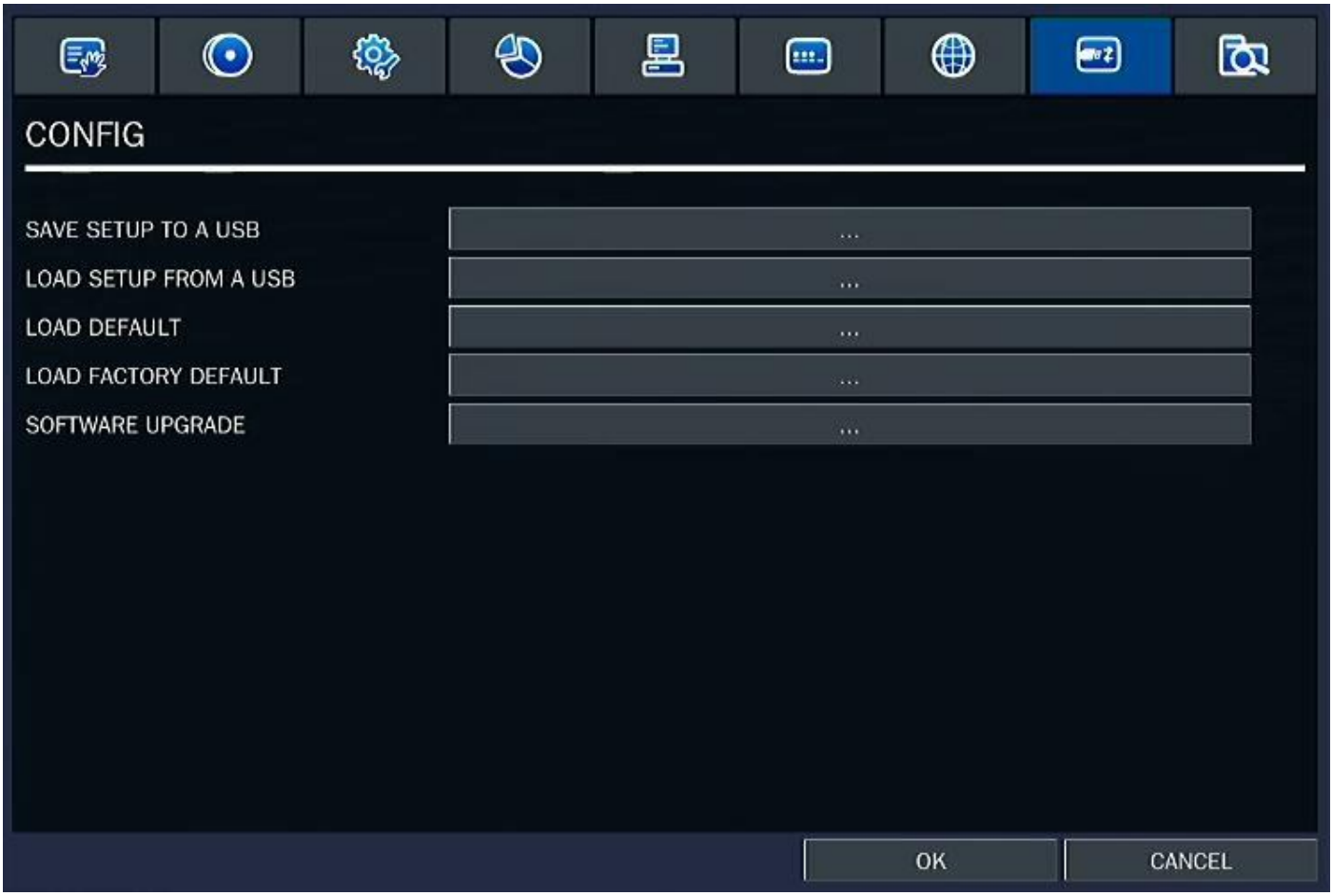
NOTICE

A format of the USB stick has to be set to FAT32.

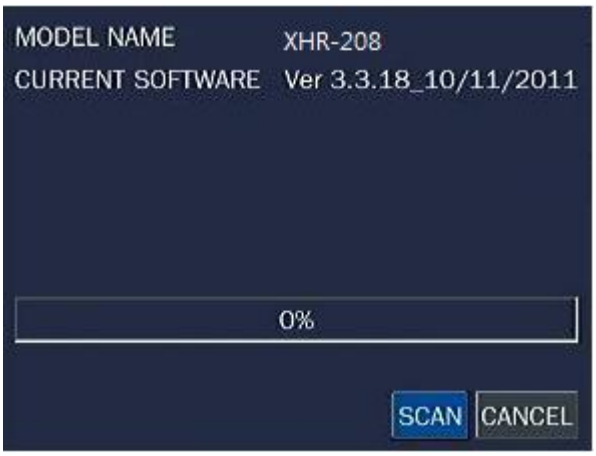
The folder on the USB memory stick must be named **“upgrade”**.

After the firmware upgrade file is copied into the USB memory stick, connect the USB memory stick to the USB port on the front or rear panel and do the followings:

1. Go to Config menu of Setup.



2. You can see the following message when pressing the software upgrade menu after putting the USB memory stick on the system.



3. You can see the following message when pressing the scan button. Please check the current firmware version and the firmware version which you want to upgrade.

4. You can see the following progressive message when pressing the upgrade button.

5. You can see the following message when finishing the upgrade. After upgrading, the system should be restarted. At that time, the USB memory stick has to be pulled out.

6. You could see the following warning message if you don't pull out the USB memory stick.

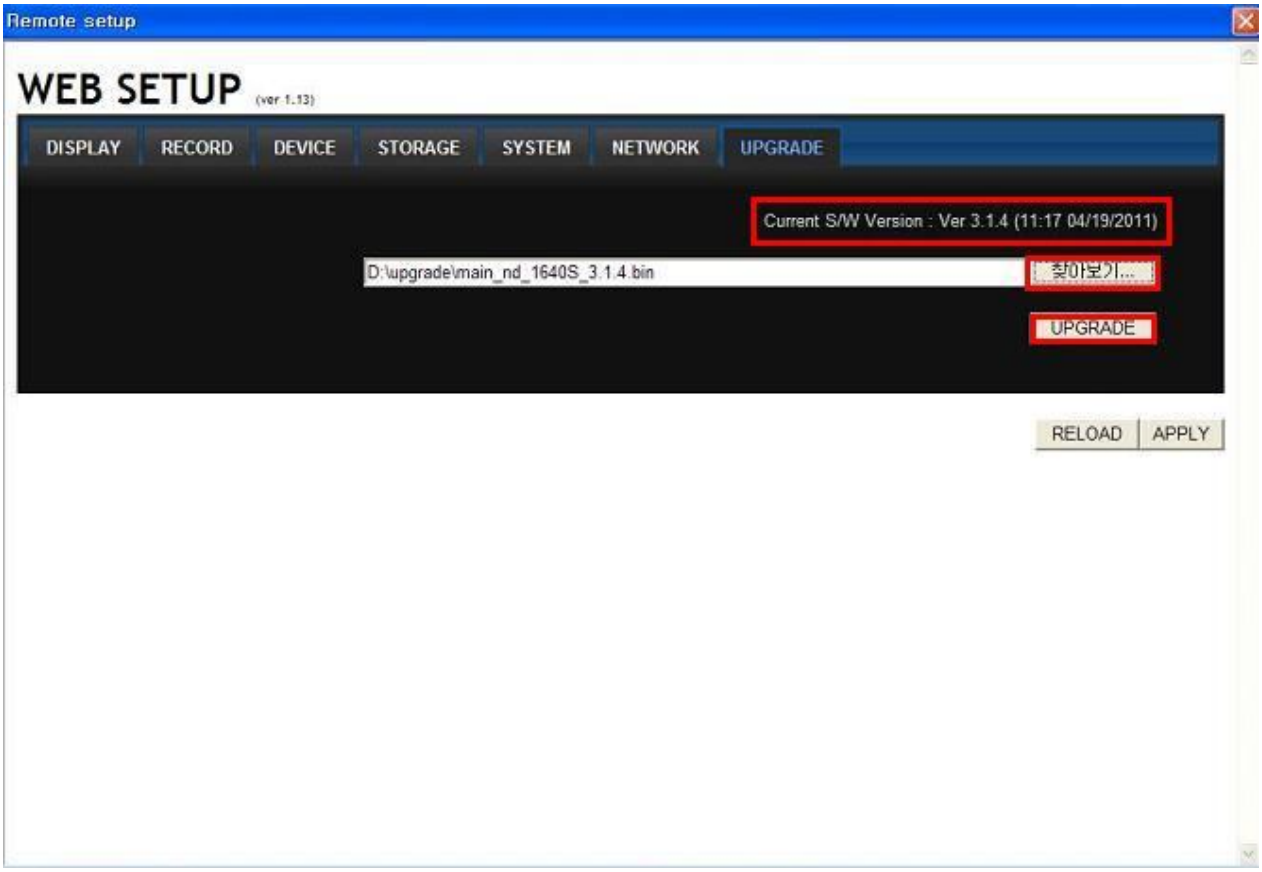
Remote Firmware Upgrade

User can upgrade the firmware via Network as follows.

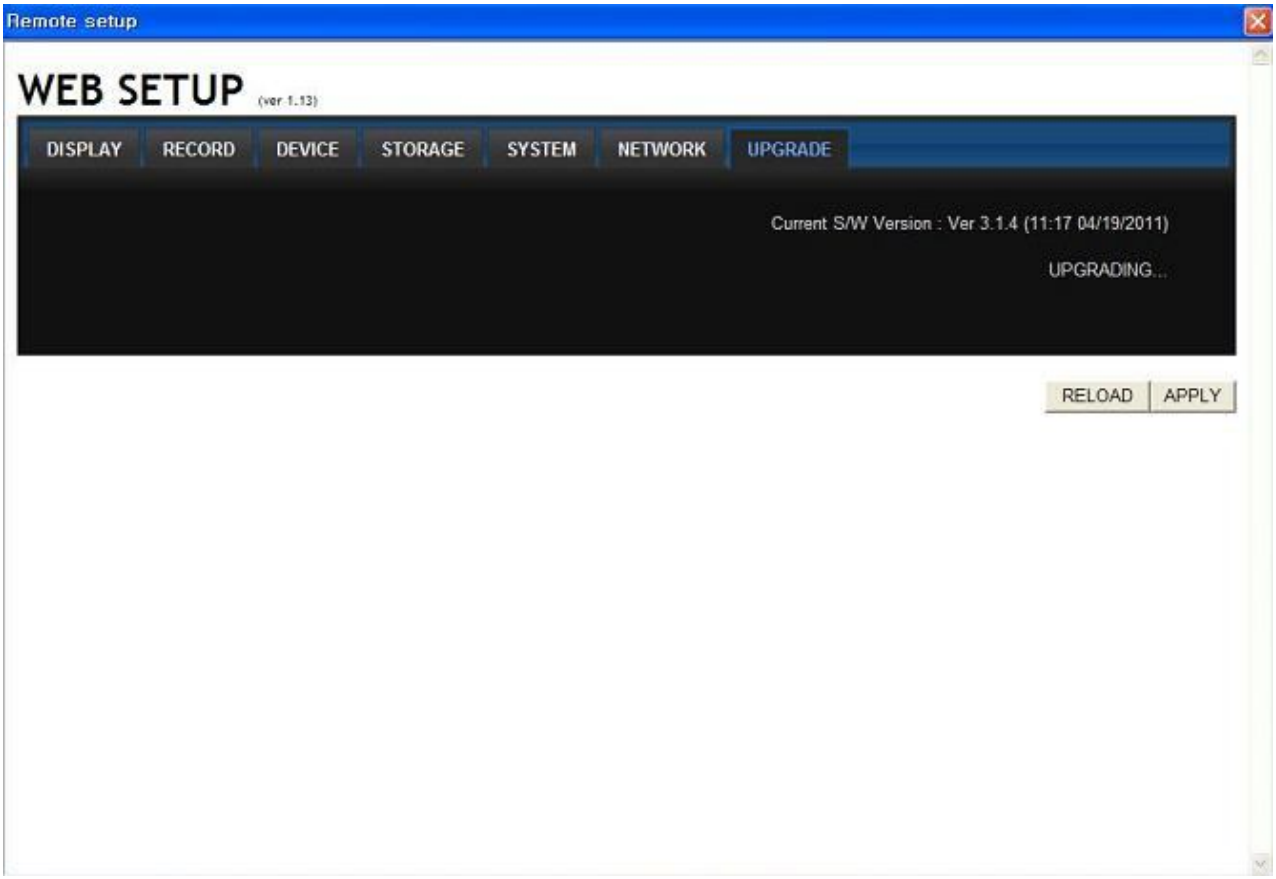
1. Go to the Remote Setup menu on the UMS Multi or Web Viewer.

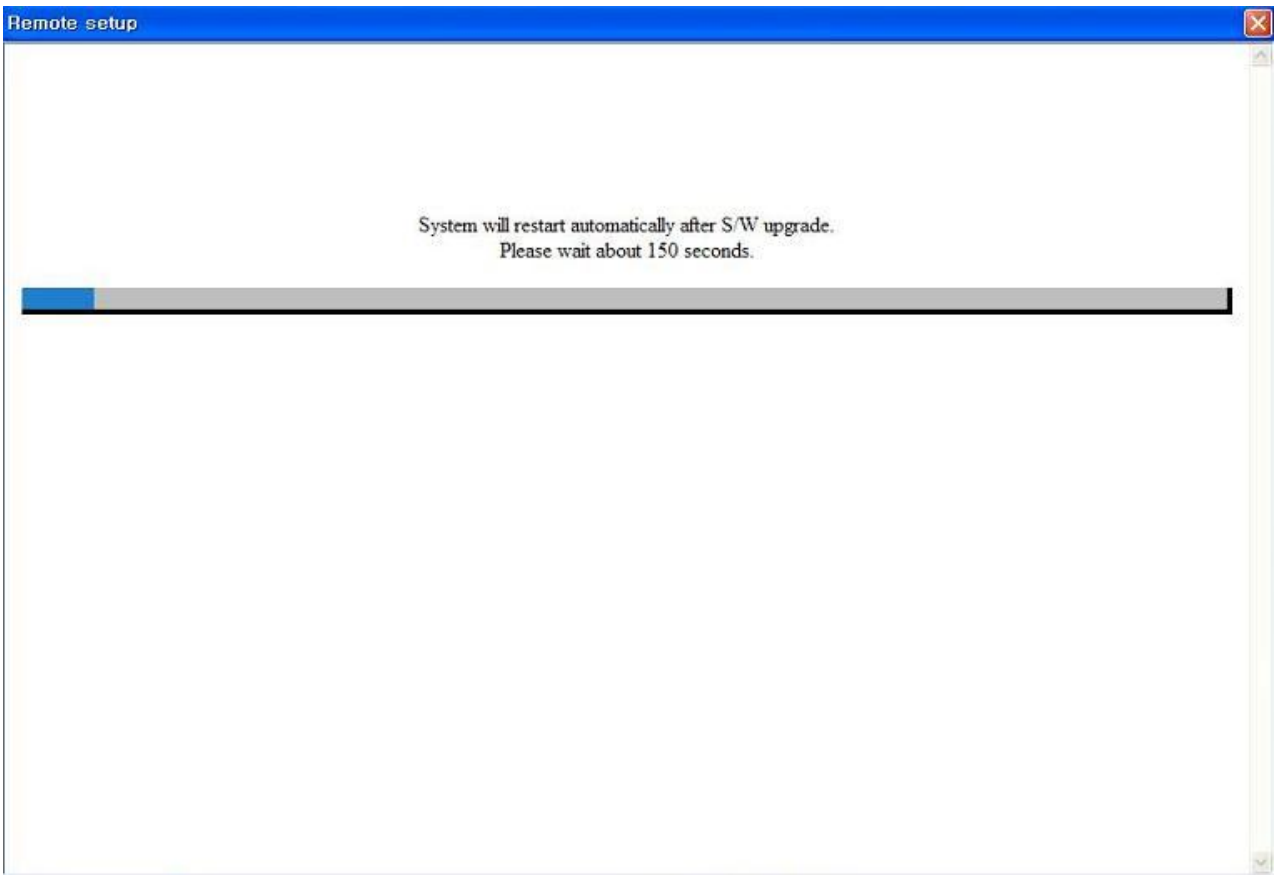
2. Press the password for admin. Just admin is possible to connect to the remote setup menu.

3. Go to the Remote Upgrade menu. Then, you can see the current F/W version as follows. To upgrade a new F/W, insert the F/W in your PC and press the UPGRADE button.

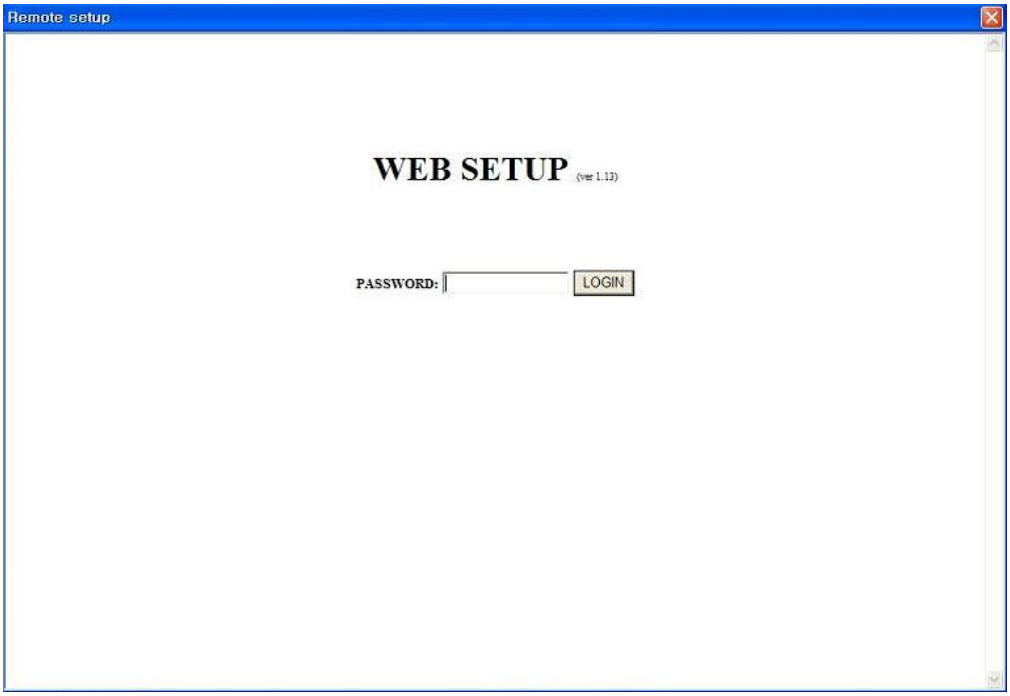


4. Then, you can see the following progress bar and it would be taken around 150 seconds to upgrade.





5. When finishing the upgrade, the network streaming would be connected again automatically and you can see the following screen. Please check the current F/W version if the upgrade is succeeded.



8. Network access using the Exclusive network viewer, UMS single

The DVR provides a live remote monitoring feature. Remote monitoring requires installation of the network viewer on your PC.

NOTICE

In a high bandwidth network, a maximum of four users can access one DVR simultaneously.
In a low bandwidth network it is recommended that only one user access the DVR at a time.

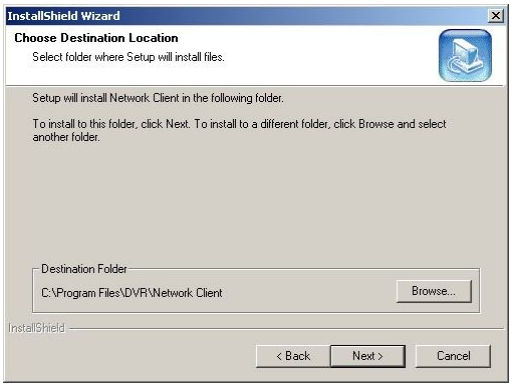
8-1. PC requirements

- CPU: Intel Pentium IV 1.4Ghz or higher
- Memory: 512MB (1GB or higher is recommended.)
- VGA memory: 16MB (64MB or higher is recommended.)
- Resolution: 1024x768
- O/S: Windows 2000, XP Professional, XP home
- Direct X: DirectX 8.1 or higher

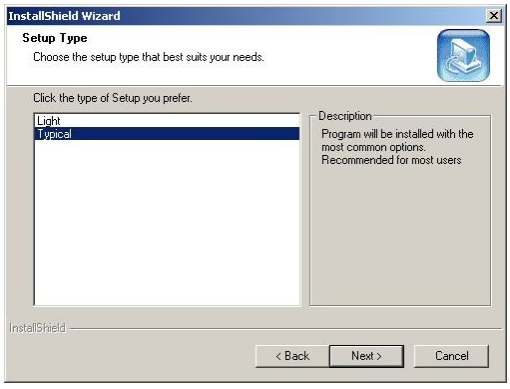
8-2. Installing the network viewer

1. Insert the provided CD in the CD drive and double-click “UMSClient(XXXX)**.exe**”

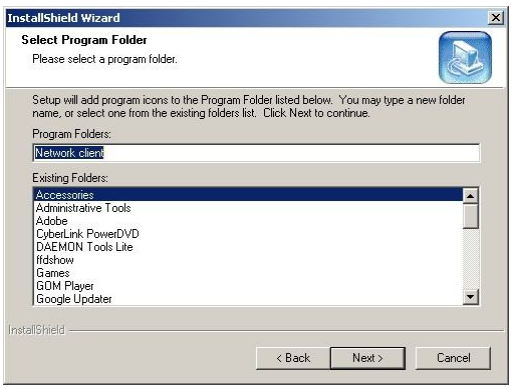
2. Select a destination folder and click “Next”.


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install Network Client in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\DVR\Network Client
Browse...
InstallShield
< Back
Next >
Cancel

3. Select the type and click “Next”.



4. Select the program folder and click “Next”.

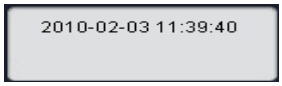


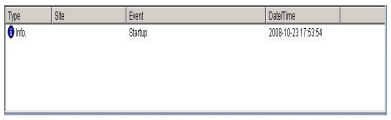
5. The setup status screen is displayed.

After the installation is completed, **“UMS Client”**

icon is displayed on the desktop.

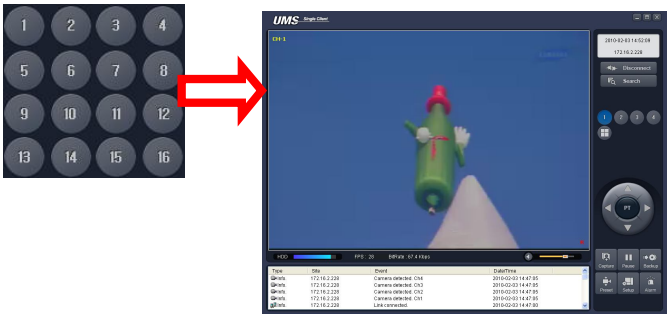
8-3. Live monitoring mode and functions.

Button	Function	Description
	**DATE & TIME**	Displays the current date and time.
	CONNECT/DISCONNECT	Connect/disconnect network connection.
	SEARCH	Switches the live mode to search mode.
	DISPLAY MODE	Select a channel and screen display mode.
	PAN/TILT/ZOOM/ FOCUS	Control the PAN/TILT/ZOOM/FOCUS features on the remote camera.
	CAPTURE	Capture a still image from live screen.
	PLAY/PAUSE	Play/pause live video.
	ALARM	The ON/OFF button of the alarm output of the DVR. When an alarm of the DVR is output, this button becomes Red.
	SETUP	Display the setup screen of the network viewer.
	HDD USAGE	DVR HDD storage Indicator.

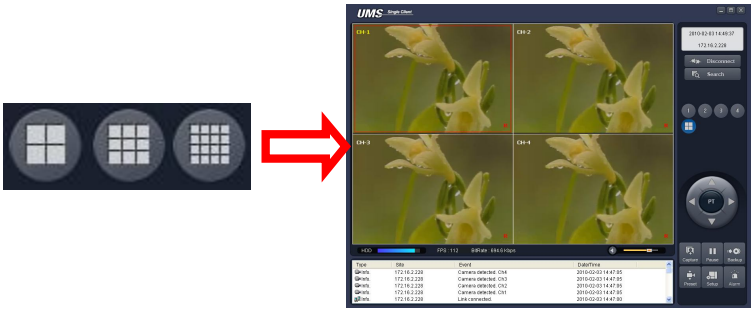
	NETWORK BANDWIDTH	Shows the transferred frames and network bandwidth.
	AUDIO	Adjust the volume. The audio can be turned on or off by clicking the audio icon.
	**LOG WINDOW**	

Operations of the display mode of the main screen

- Single channel display - Click the one of channel button or double-click the channel screen.



- QUAD/-screen display - Click the QUAD button to switch to quad-screen display



- Full screen display - Click the maximize button to display only screen and hidden the operation panel.

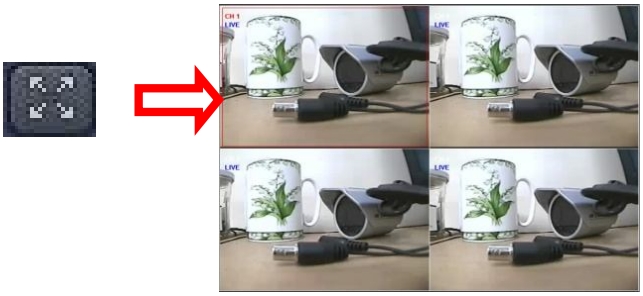
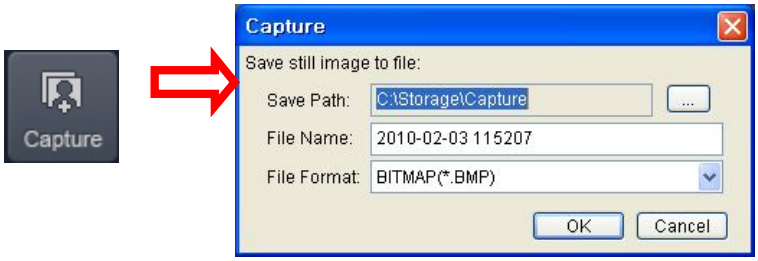


Image capture of live screen

Still-image of live screen can be captured and saved as BMP or JPEG file.

1. Click the channel to be captured. Then the channel screen is surrounded with a red line.
2. Click the CAPTURE button. Then the IMAGE CAPTURE dialog is displayed.



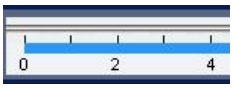
3. Set the conditions and click OK button. Then still-image is saved.

8-4. Bi directional audio

The UMS Client allows for bi directional audio between the client and a dvr unit. On the PC, to use bi directional audio, you will need a sound card of handling a microphone and speakers. On the dvr side, you will need to connect a microphone to the audio in connection, and a pair of amplified speakers to the audio out connection.

8-5. Remote search mode and functions

Button	Function	Description
2008-10-23 19:04:53 172.16.2.208	**DATE & TIME**	Displays the recording time of the data selected on the time bar at the bottom of the main user interface.
Disconnect	**DISCONNECT**	Disconnect network connection..
Live	**LIVE**	Switches the search mode to live mode.

	CAPTURE	Capture a still image from live screen.
	MARK IN	Set the start time for video backup.
	MARK OUT	Set the ending time for video backup.
	BACKUP	Backup the selected recorded video as AVI format.
	SEARCH CALENDAR	The calendar shows dates with recorded video in a light blue and the selected date in dark blue.
	**TIMELINE BAR**	The timeline shows recorded data in dark blue on the bar.
	PLAYBACK BUTTON	The playback buttons.
	DISPLAY MODE	Select a channel and screen display mode.

Searching and playing video in the remote DVR

Video recorded in the remote DVR or Video recorded on the PC can be searched and played back.

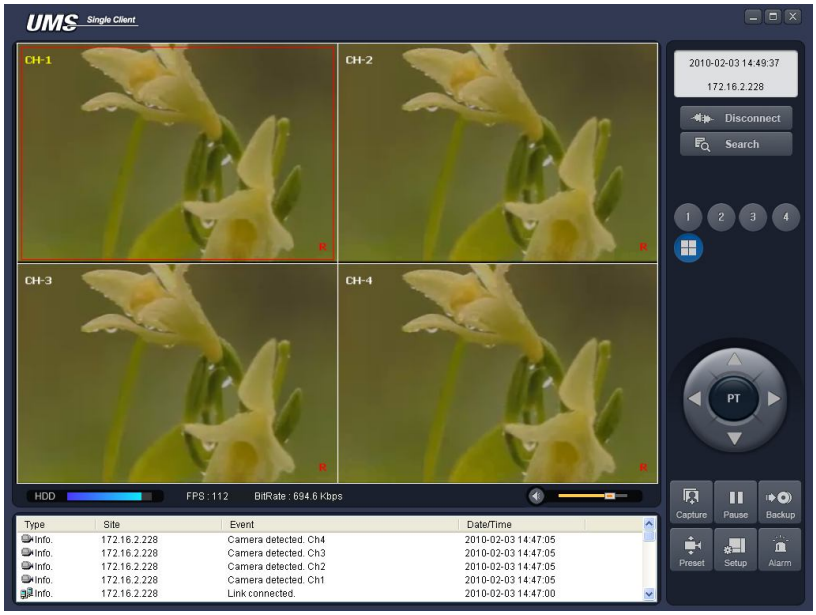
1. Connect the network to the remote DVR and press SEARCH button. Then the mode is changed from the live mode to the search mode.

- Searching the video recorded in the remote DVR: Connect the network to the DVR..
- Searching the video recorded in the PC: Do not connect the network to the DVR.

2. Select the date to search the video.

3. Drag the slid on the time scale and drop it between 0 to 24.

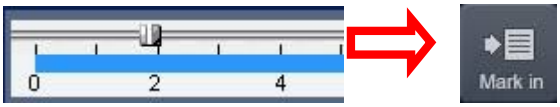
4. Press the PLAY button. Then the video recorded in the remote DVR is played back.



Backup of video in the remote DVR

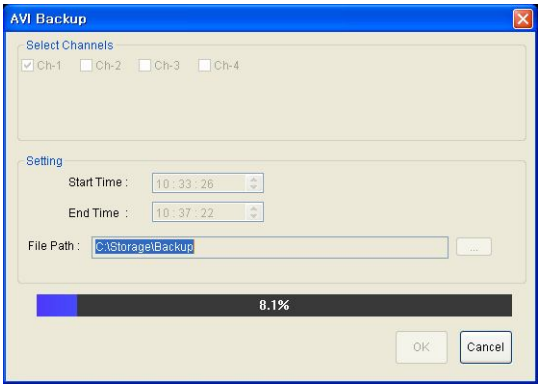
Video recorded in the remote DVR cab be backed up on the PC HDD as AVI format.

1. Connect the network to the remote DVR and play the video recorded in the remote DVR.
2. Drag the slid on the time scale and drop to the start time for video backup and press the MARK IN button.



3. Drag the slid on the time scale and drop to the end time for video backup and press the MARK OUT button. Then the marked time is displayed in dark green.

4. AVI Backup dialog is displayed. Click the OK button. Then the marked video is backed up.

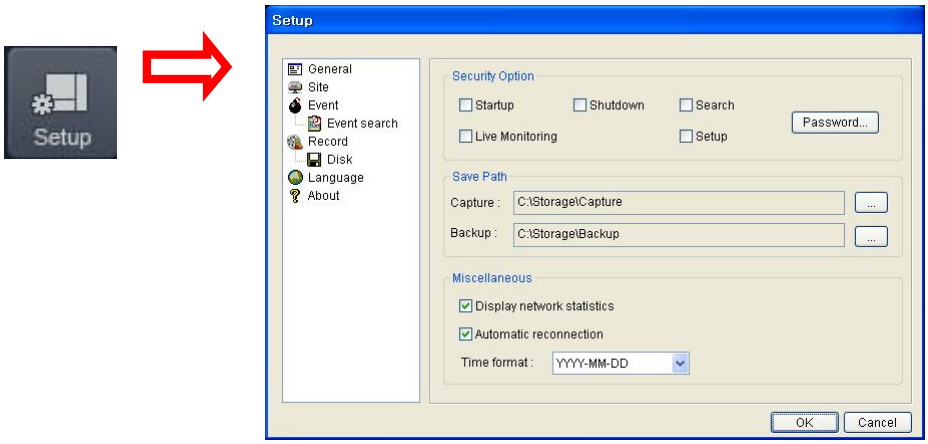


- Start time / Stop time: Backup time can be changed.

- File path: Shows the folder that the backup file is recorded.
- Channel: Shows backup channel.

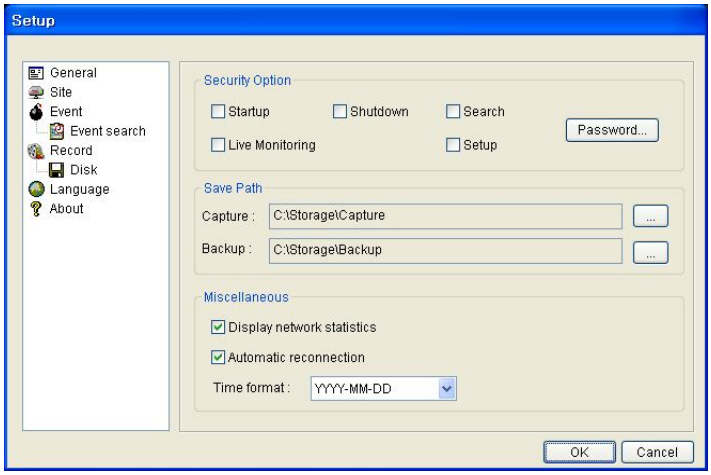
8-6. PC System configuration

Click the SETUP button. Then the Setup dialog is displayed.



Setting General

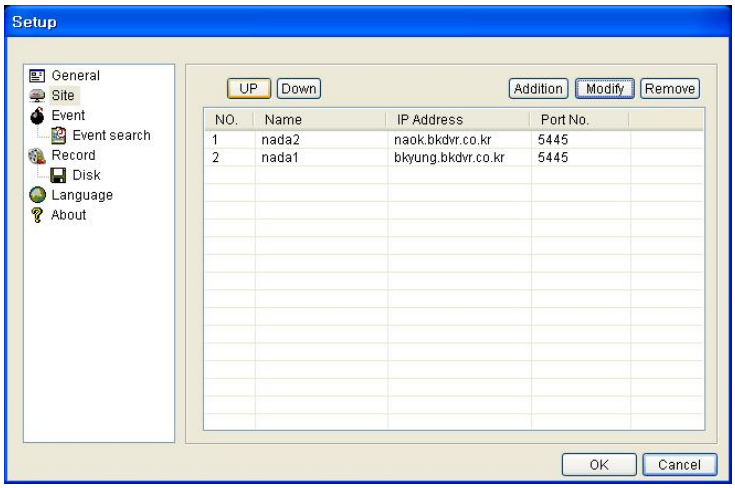
Set the Security Option, Save Path, and Miscellaneous.



- **Security Option**: Set a password for security options. When you access any of the selected functions, you will need to enter the password.
- **Save Path**: Specify the location to record for backup and still image capture.
- **Automatic reconnection**: If a user selects this function, the client S/W will automatically try to connect to the previously connected IP address if the network connection is lost.
- **Display network statistics**: If a user selects this function, the client S/W will display network status, Bit rate and Frame rate.
- **Time Format**: Change the mode the Client software displays the time.

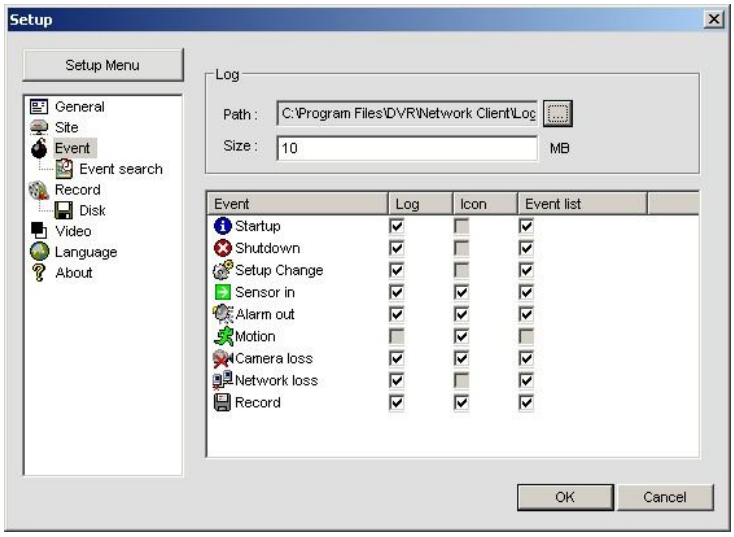
Setting Site

The remote DVRs can be added, modified, and removed.



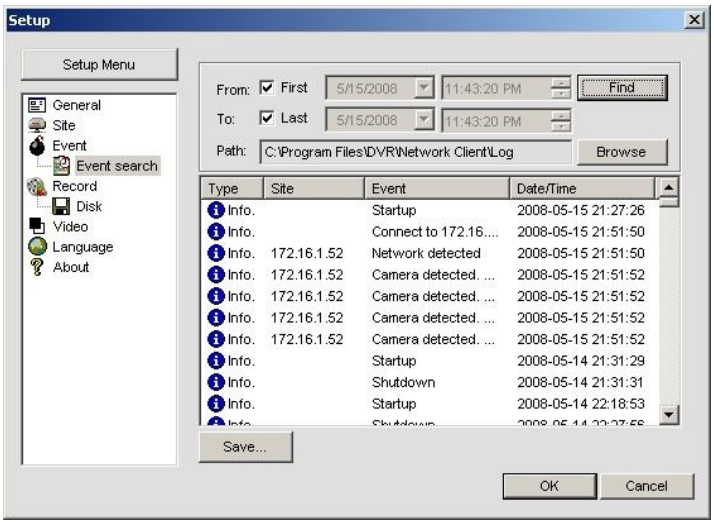
Setting Event

Set the record path and the size of local disk space for the log files.



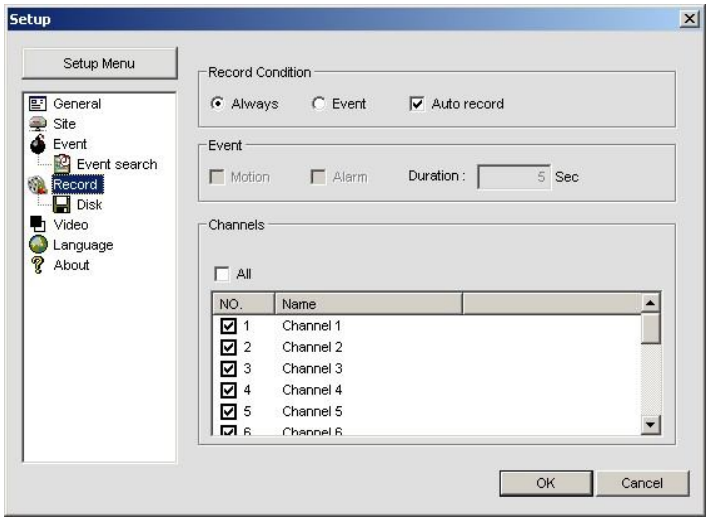
- LOG – Select to save event log into ‘log file’.
- ICON – Select to display the event on live video.
- EVENT LIST – Select to show the event in the ‘Event List” window of live mode.

Search and check the recorded log data.

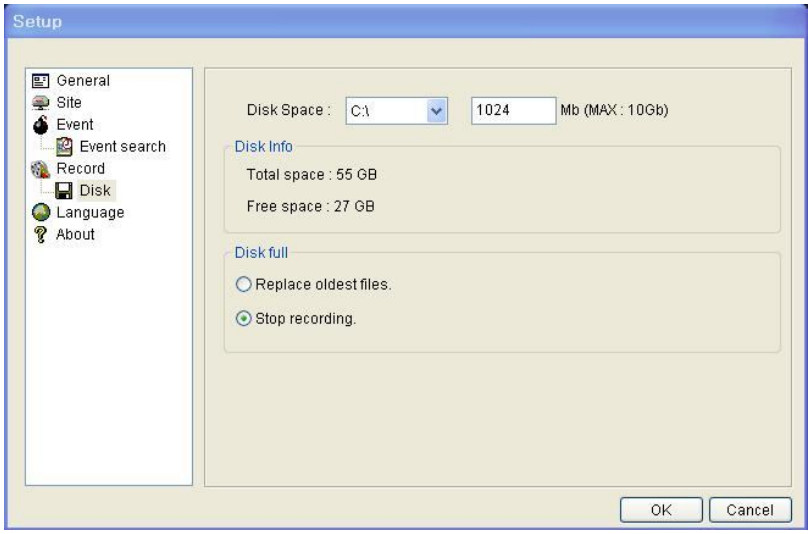


Setting Record

Set the recording conditions and select channels to record.



Select the local disk to use and the amount of disk space you want to allow the program to use for recording.



9. Network access using the Exclusive network viewer, UMS multi

9-1. Overview

The UMS Multi-Client is a multiple site monitoring client software with; video, audio, and alarm signals from the DVRs over networks. The UMS Multi-Client does not limit the number of DVR units to register.

The program displays to up 256 live videos on one display and even playback videos window on the same or another display monitor.

On the program, user may control PTZF cameras on the DVRs. By attaching a microphone and speaker system to devices on site, user may make bi-directional audio communication over the network.

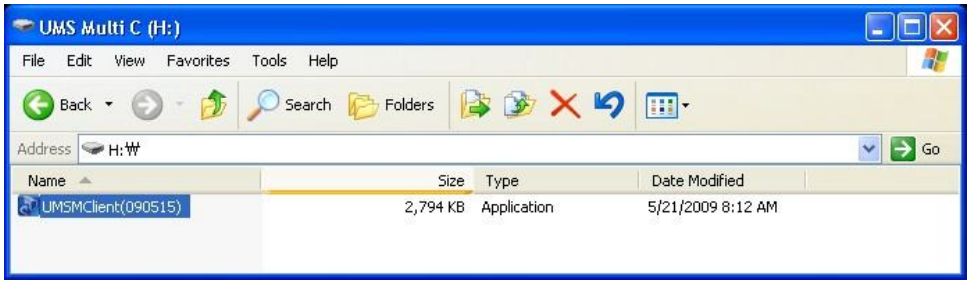
9-2. Minimum PC requirements

CPU	Intel PentiumⅣ
	2Ghz
Memory	512MB or Higher is recommended.
VGA	128MB or Higher is recommended.
Resolution	1024x768
Disk space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista (Some versions of Vista has problem in installation. Please contact your vendor for more information.)
Network	10/100Base T
Others	Direct X 8.1 or Higher

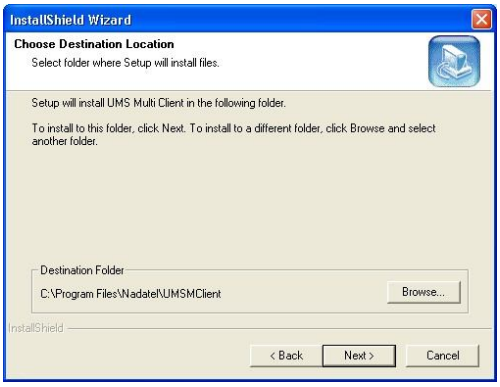
Before installing the program, check the PC specifications. The DVR remote software may not perform correctly if the PC does not meet the minimum requirements.

9-3. Installing the program

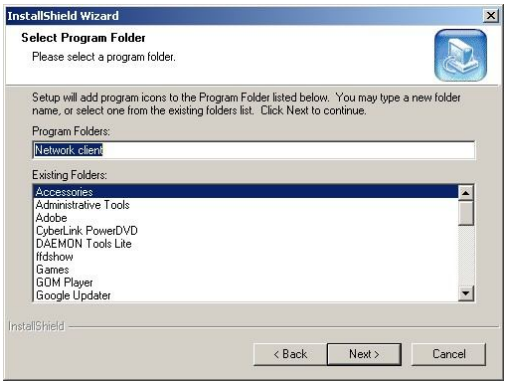
1. Insert the provided CD in the CD drive and double-click “UMSMultiClient (XXXX)**.exe**”


UMS Multi C (H:)
File Edit View Favorites Tools Help
Back Search Folders
Address H:₩
Go
Name Size Type Date Modified
UMSMClient(090515) 2,794 KB Application 5/21/2009 8:12 AM

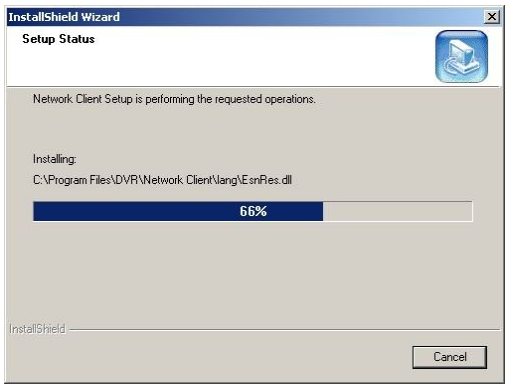
2. Select a destination folder and click “Next”.


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install UMS Multi Client in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\Nadatel\UMSMClient
Browse...
InstallShield
< Back
Next >
Cancel

3. Select the program folder and click “Next”.



4. The setup status screen is displayed.



5. After the installation is completed, **“UMS Multi Client”** icon displays on the desktop screen.

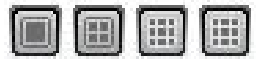
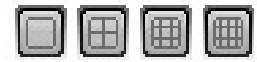
9-4. Live Window

When installation is completed, double click the **“UMS Multi Client”** icon on your desktop to start the program.

9-4-1. Main user interface

9-4-2. Control buttons

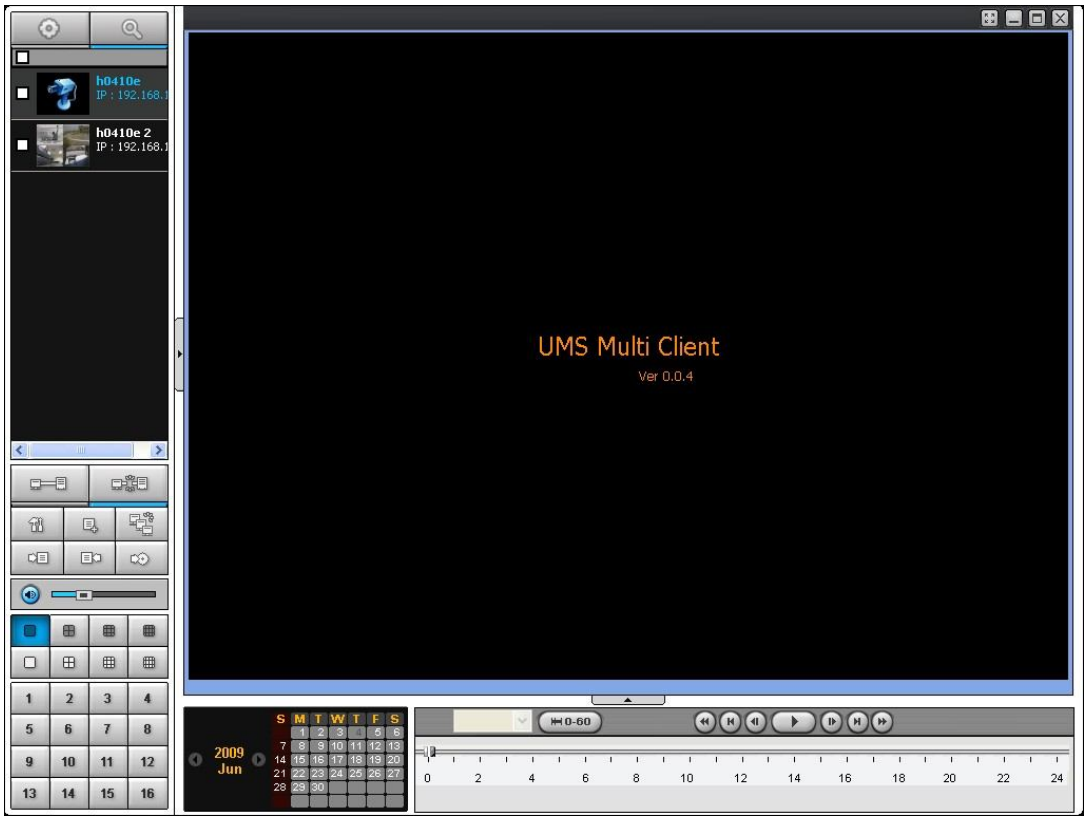
Button	Description
LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in local PC.
REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in remote DVR.
SITE MANAGEMENT	THUMBNAIL REFRESH: Click this icon to refresh and renew thumbnail image of every connected site. SITE ADDITION: Click this icon to open 'Site Addition' window. SITE DELETE: Click this icon to delete site from the index window, after disconnect a site. NET FINDER: Select the site from the index window and click this icon to modify the information of specific site.
CONNECT	Click this icon to connect the selected site/sites.
DISCONNECT	Click this icon to disconnect the selected site/sites.
SETUP	Click this icon to setup configuration of UMS MULTI CLIENT.
CAPTURE	Click this icon to capture a still image
EVENT LIST	

PAUSE	Click this icon to play/pause live video.
ALARM ON	
RECORD ON	Enable or disable recording of live video to local disk which has set in setup menu.
AUDIO	Use the volume control bar to set the audio level.
MIC	Use the micro phone volume control bar to set the micro phone level.
	User can control PAN/TILT & ZOON/FOCUS. PAN left /right TILT up/down ZOOM in/out FOCUS in/out
 CHANNEL SPLIT	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
 DVR SITE SPLIT	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.

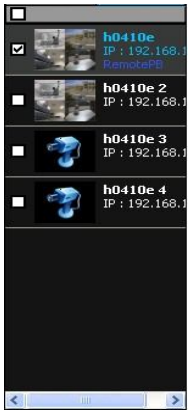
9-5. Search and Playback Window

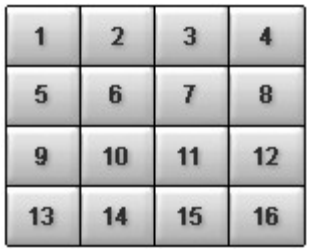
9-5-1. Main user interface

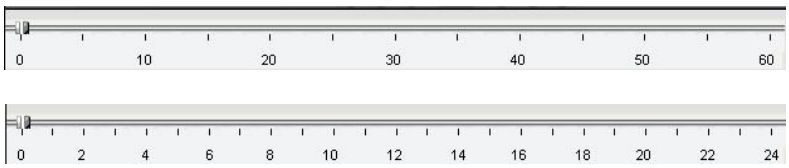
You can access to search window by clicking the search icon (Local Playback / Remote Playback) on the upper left of Live Window.



9-5-2. Main control panel

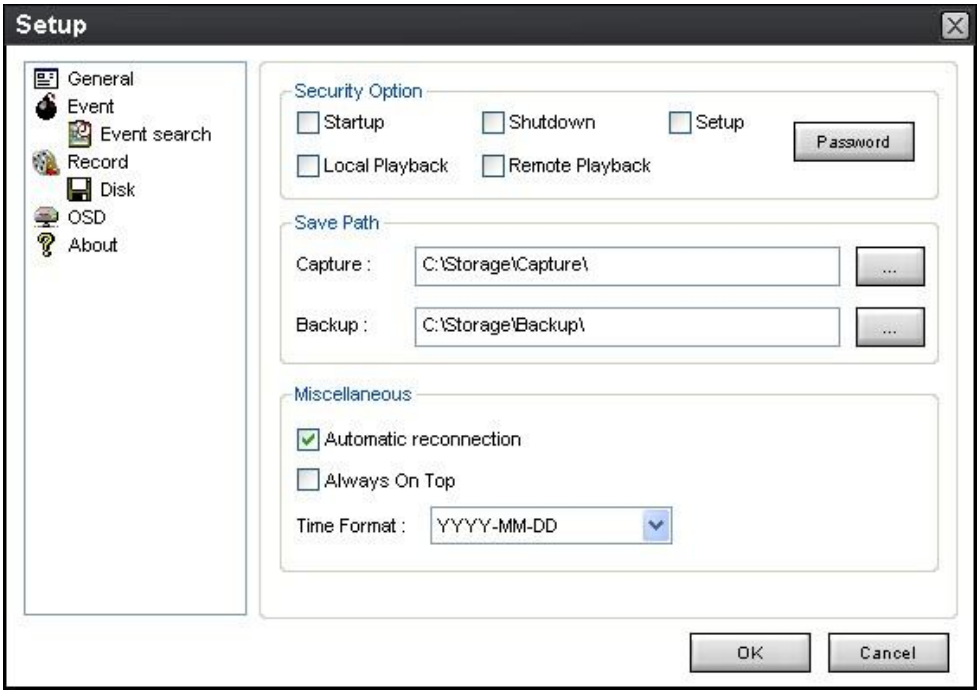
Button	Description
LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in local PC.
REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in remote DVR.
	Directory window shows site/sites that are pre-registered.
CONNECT	Click this icon to connect the selected site/sites.
DISCONNECT	Click this icon to disconnect the selected site/sites.

SETUP	Click this icon to setup configuration of UMS MULTI CLIENT.
CAPTURE	Click this icon to capture a still image.
EVENT LIST	
MARK IN	Click this icon to set the beginning time for backup of the recorded video in AVI format.
MARK OUT	Click this icon to set the ending time for backup of the recorded video in AVI format.
BACKUP	Click this icon to backup the recorded video in AVI format.
AUDIO	Use the volume control bar to set the audio level.
DVR SITE SPLIT	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.
CHANNEL SPLIT	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
	To select the channel to playback.
	The calendar shows dates with recorded video in color.
	To display the recorded data of selected channel or all channels on a time line scale.

	To change a time line scale from 24 hours to 60 minutes or vise versa.  The timeline shows recorded data in color on the bar. You can adjust the time line scale and move it to the time you wish to playback. Then click the play icon to display the recorded video.
	Playback buttons.

9-6. Setup of UMS Multi Client

Click the setup icon to setup the configuration of UMS Multi Client software. The Setup window displays.



9-6-1. General

9-6-1-1. Security Option: Set a password for security options.

Select security options and set a password.

Then when you access any of selected functions, you need to enter the password.

You can also set the save path for capturing and backup.

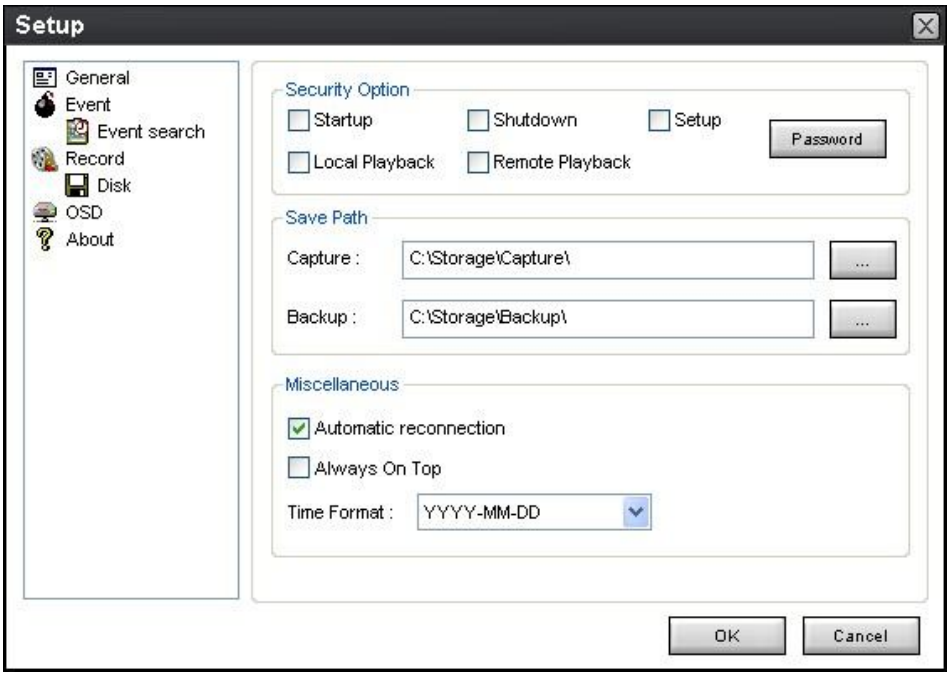
9-6-1-2. Save Path: Specify the location to save captured still image for Capture and Backup data.

9-6-1-3. Miscellaneous

Automatic reconnection: If a user selects this function, client S/W will automatically try to connect the finally connected IP address, after the network is disconnected.

Always On Top: If a user selects this function, client S/W will display continuously at the very front than other software on the PC.

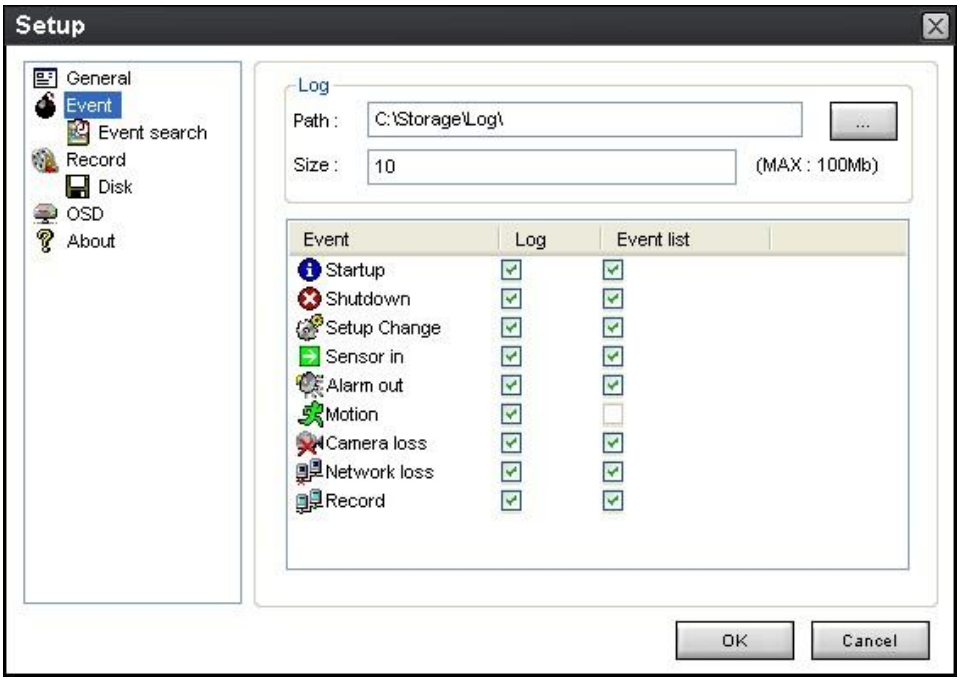
Time Format: Change the way the Client software displays the time.



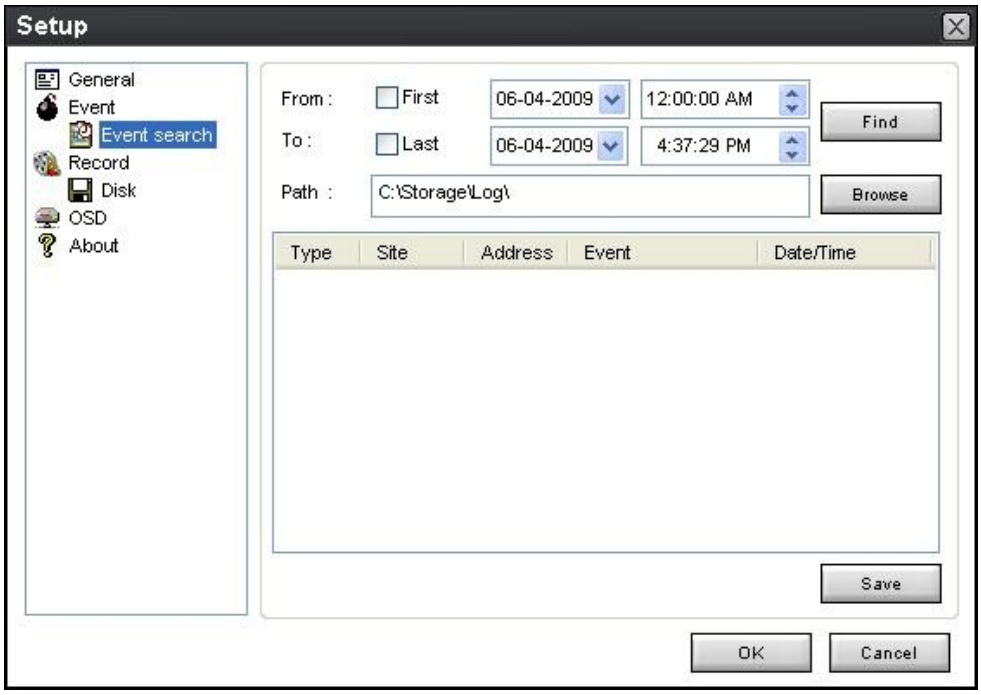
9-6-2. Event

Event log can be archived and searched.

9-6-2-1. Archiving Event Log: Specify the location to save event logs and select event to archive.



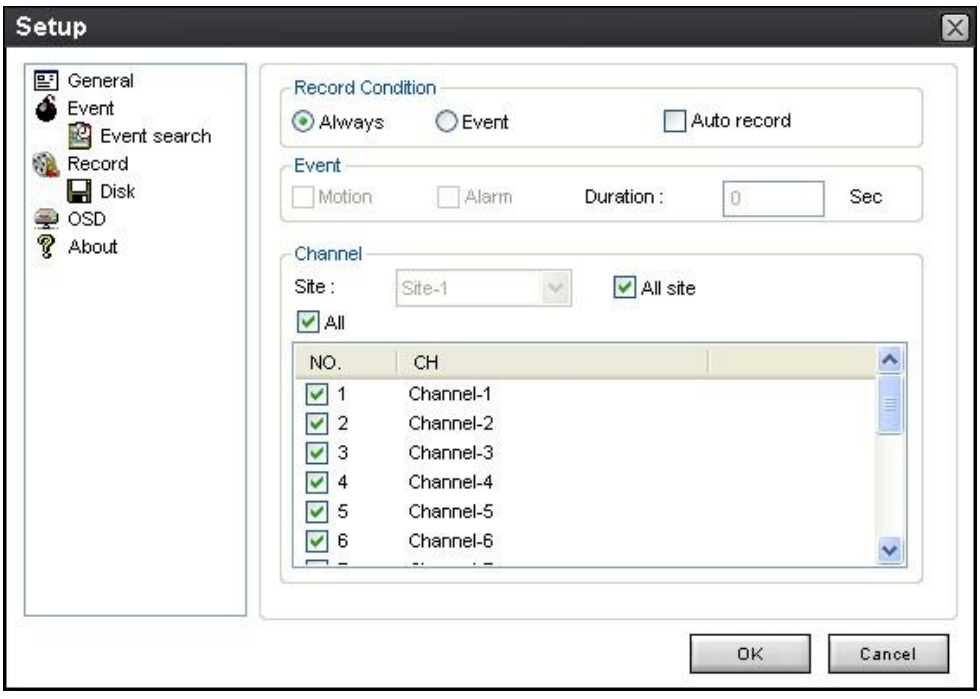
9-6-2-2. Archiving Event Log: Event log can be searched from selected time.



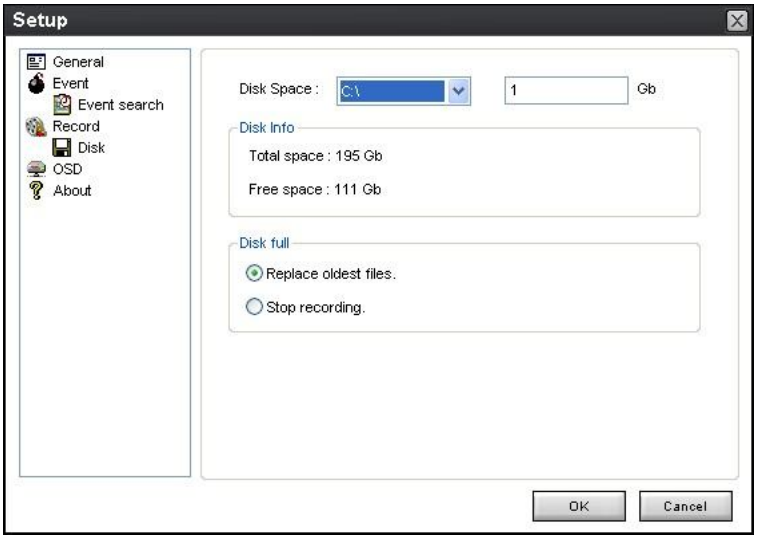
9-6-3. Record

9-6-3-1. Record setup: You can set the recording conditions for Always, Event, or Auto record. And you can also select target DVR/DVRs and channel/channels.

When you set the recording condition to event, you can set event for motion or alarm with duration.

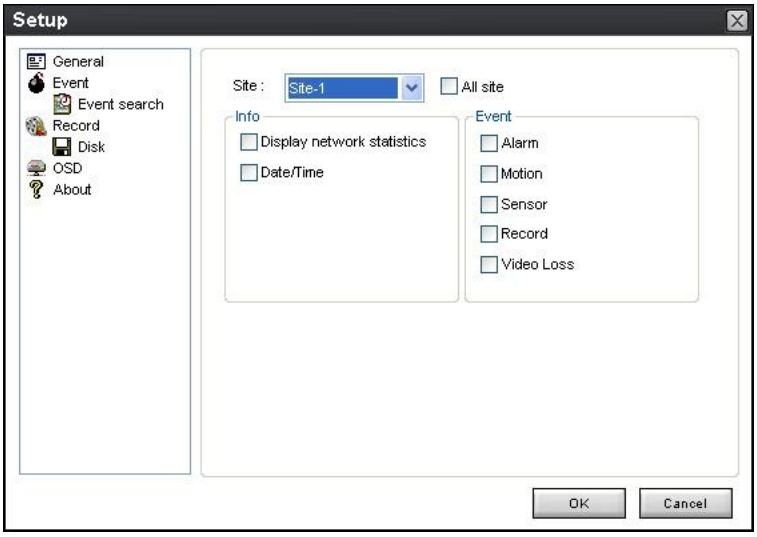


9-6-3-2. Record local storage setup: You can select the local disk to use and the amount of disk space you want to allow the program to use for recording. You can also select the option to overwrite data or stop recording when the maximum amount of disk space is full.



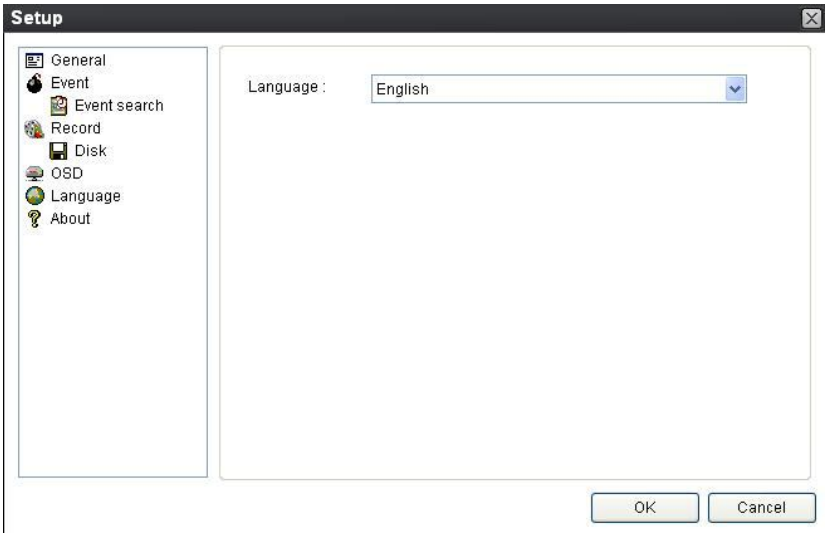
9-6-4. OSD

You can select the OSD to be display



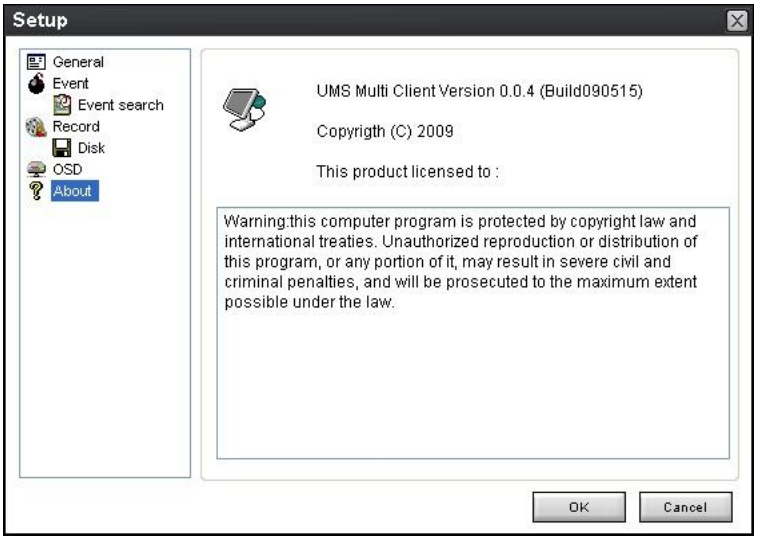
9-6-5. Language

You can select a language to be display.



9-6-6. About

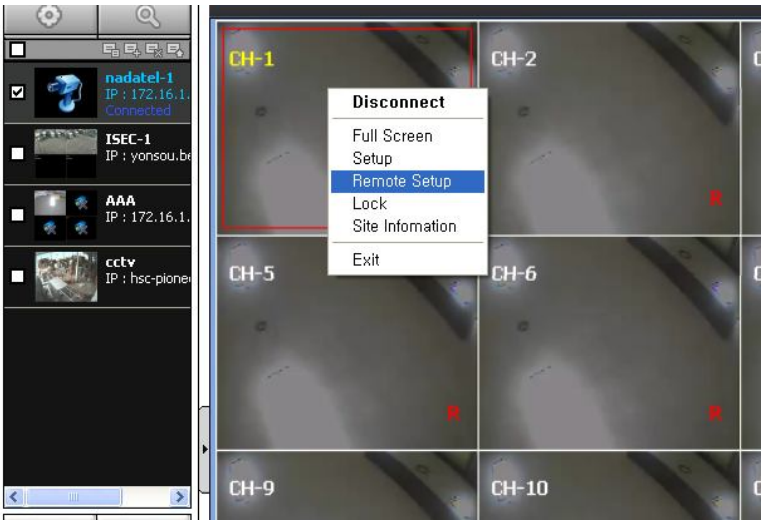
“About” provides network client version information.


Setup
General
Event
Event search
Record
Disk
OSD
About
UMS Multi Client Version 0.0.4 (Build090515)
Copyrigth (C) 2009
This product licensed to :
Warning:this computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.
OK
Cancel

9-7. Remote Setup

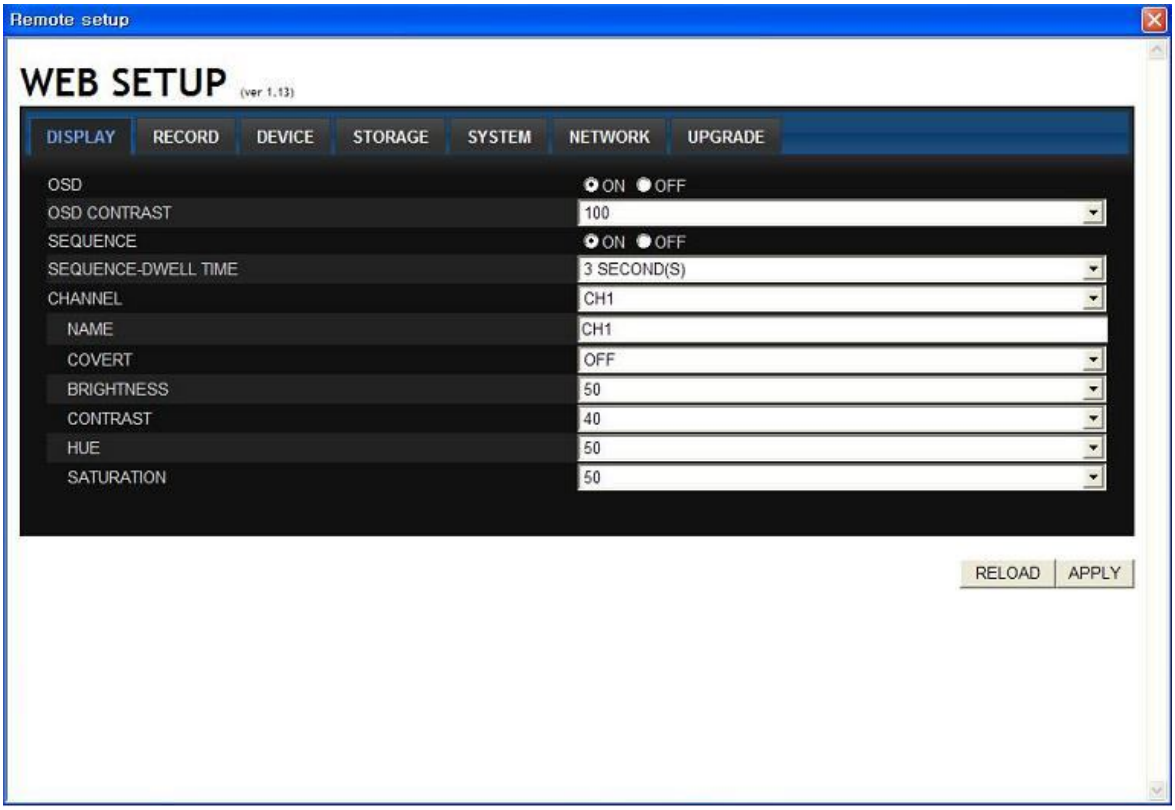
The menu settings for the DVR unit can be set from a PC, via network.

Put the cursor of the mouse on the channel which is connected to the site and press the right. Then the following window is displayed. Select the **Remote Setup**.



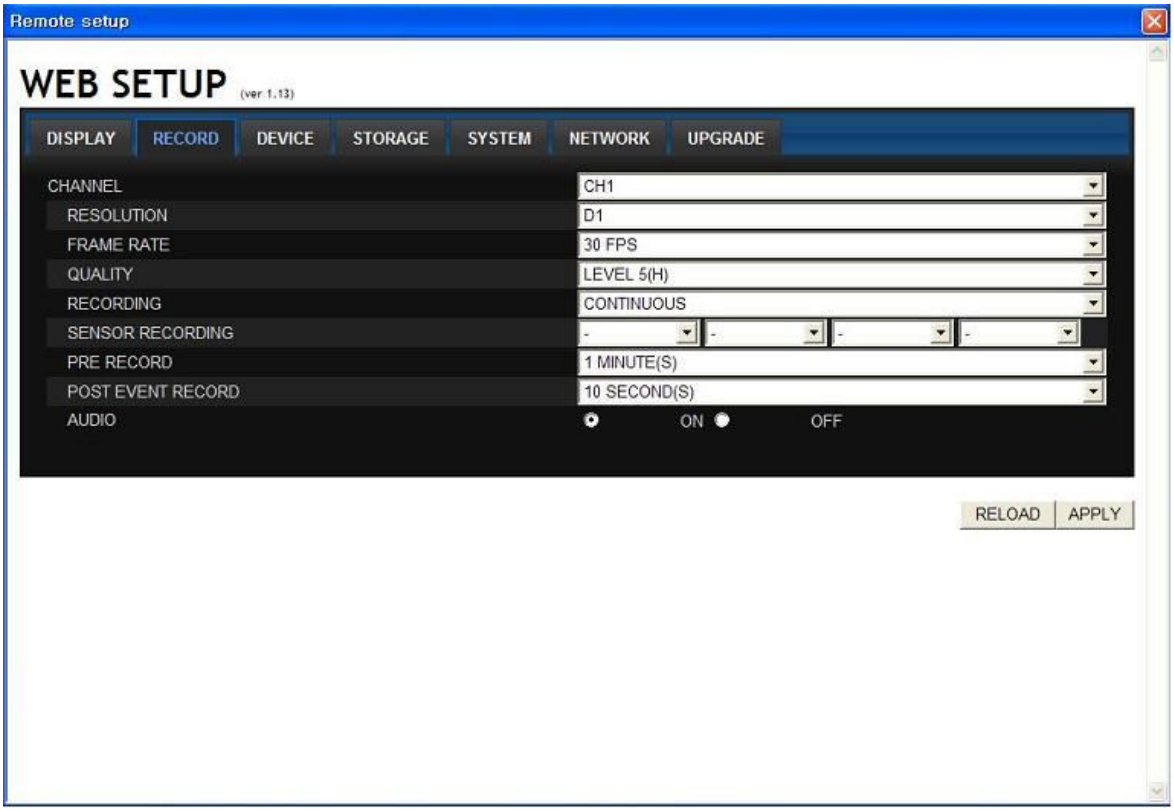
Then the setup window is displayed as follows to check the password for admin. Just admin is possible to connect to the remote setup menu. The specified menu screen is displayed on the upper side of the screen. Setting is basically the same as with the DVR menu setting.

9-7-1. Display

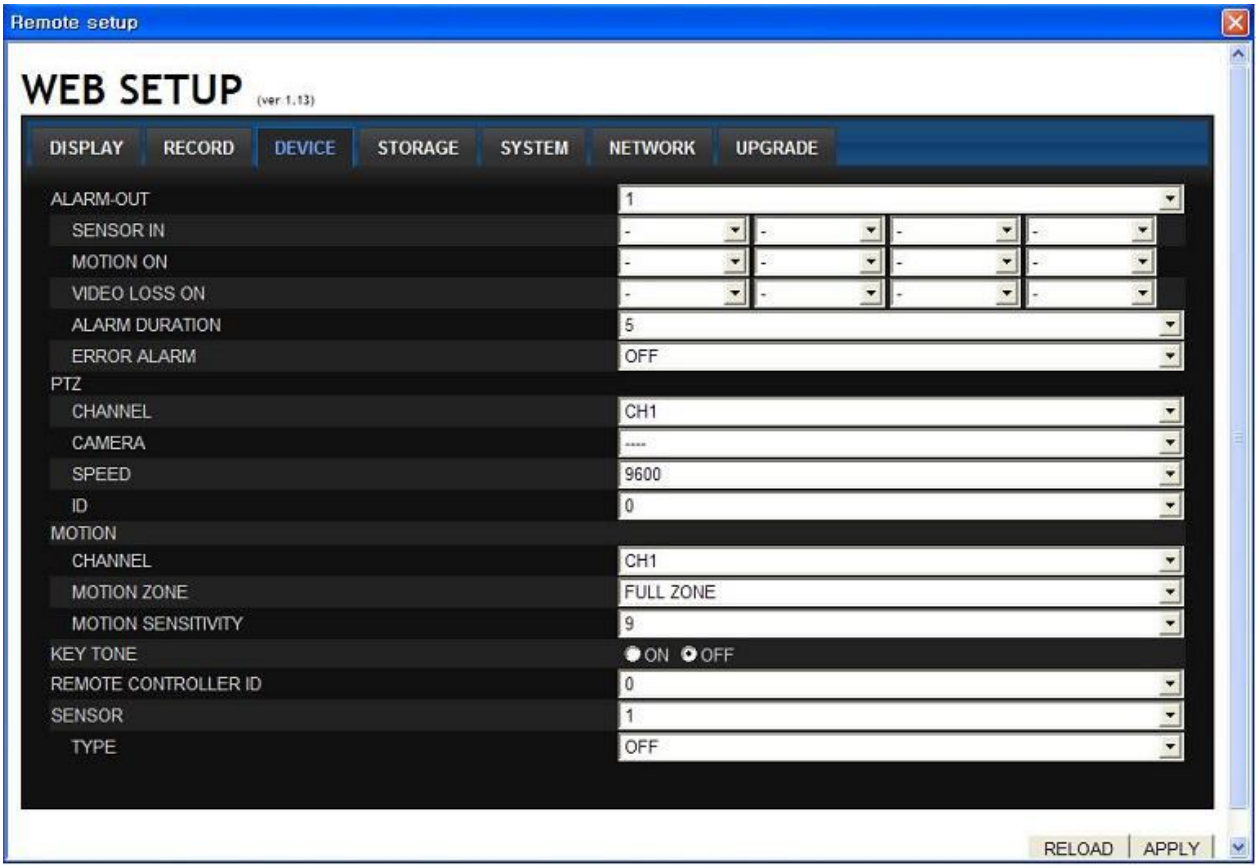


User can set the value on this remote setup page. After setting the value, please press the APPLY button. Then the value would be applied to the system without the system rebooting. RELOAD button is used when user want to bring the value in the system.

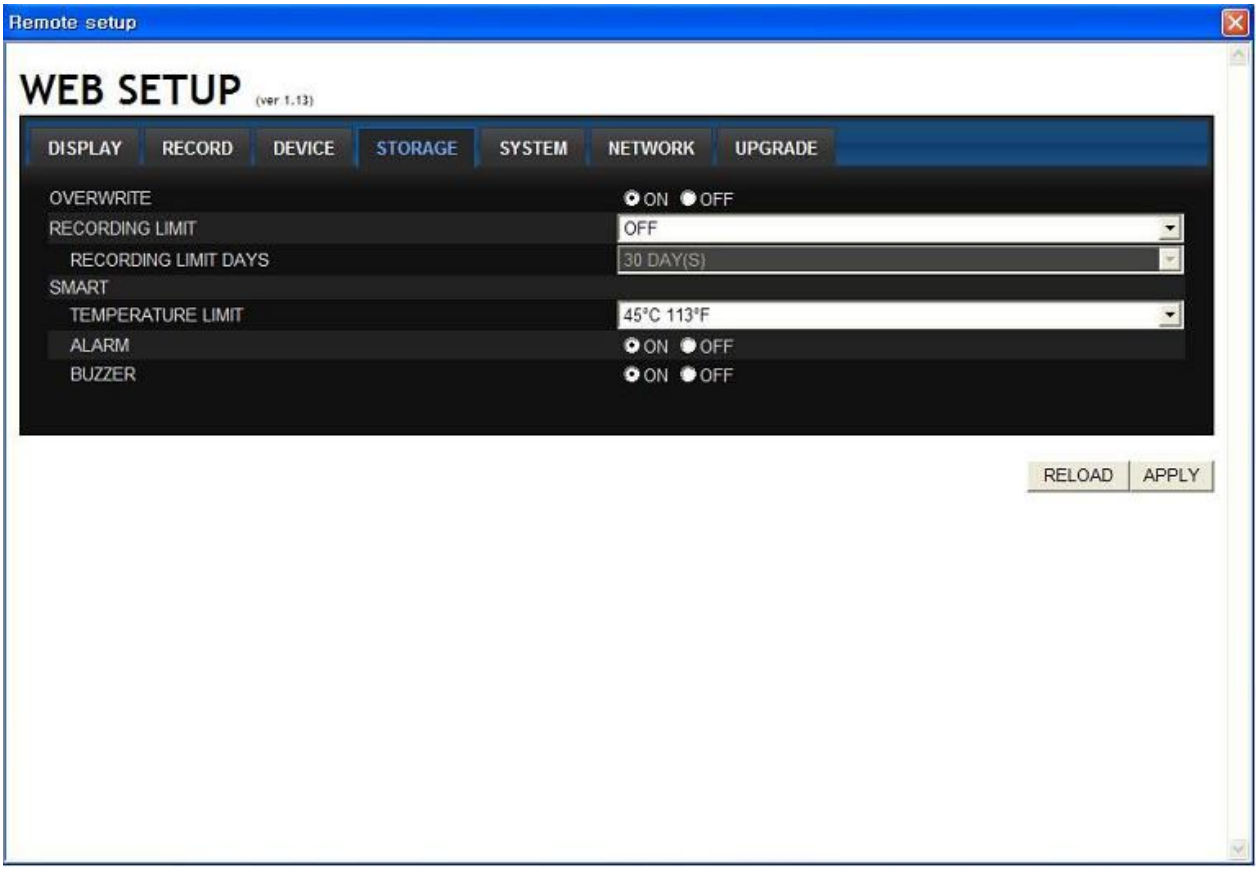
9-7-2. RECORD



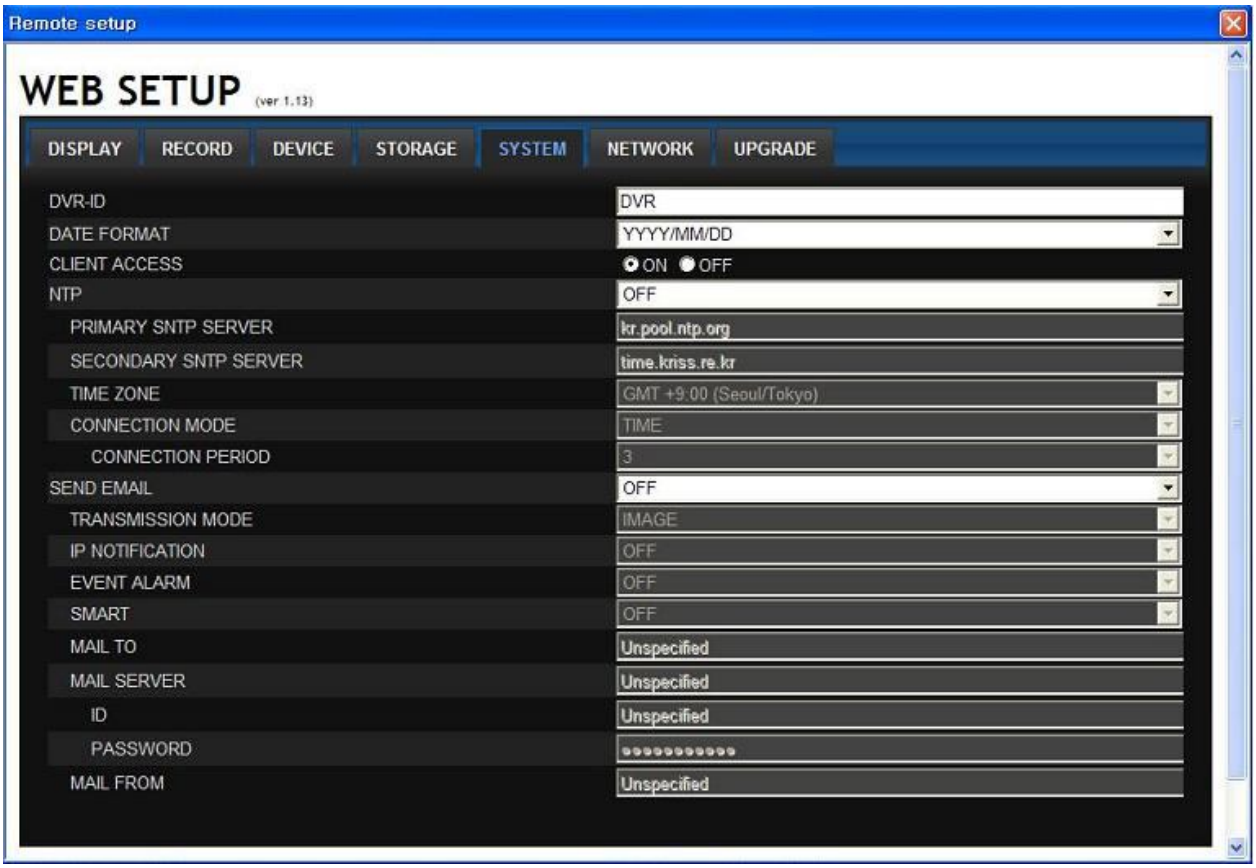
9-7-3. DEVICE



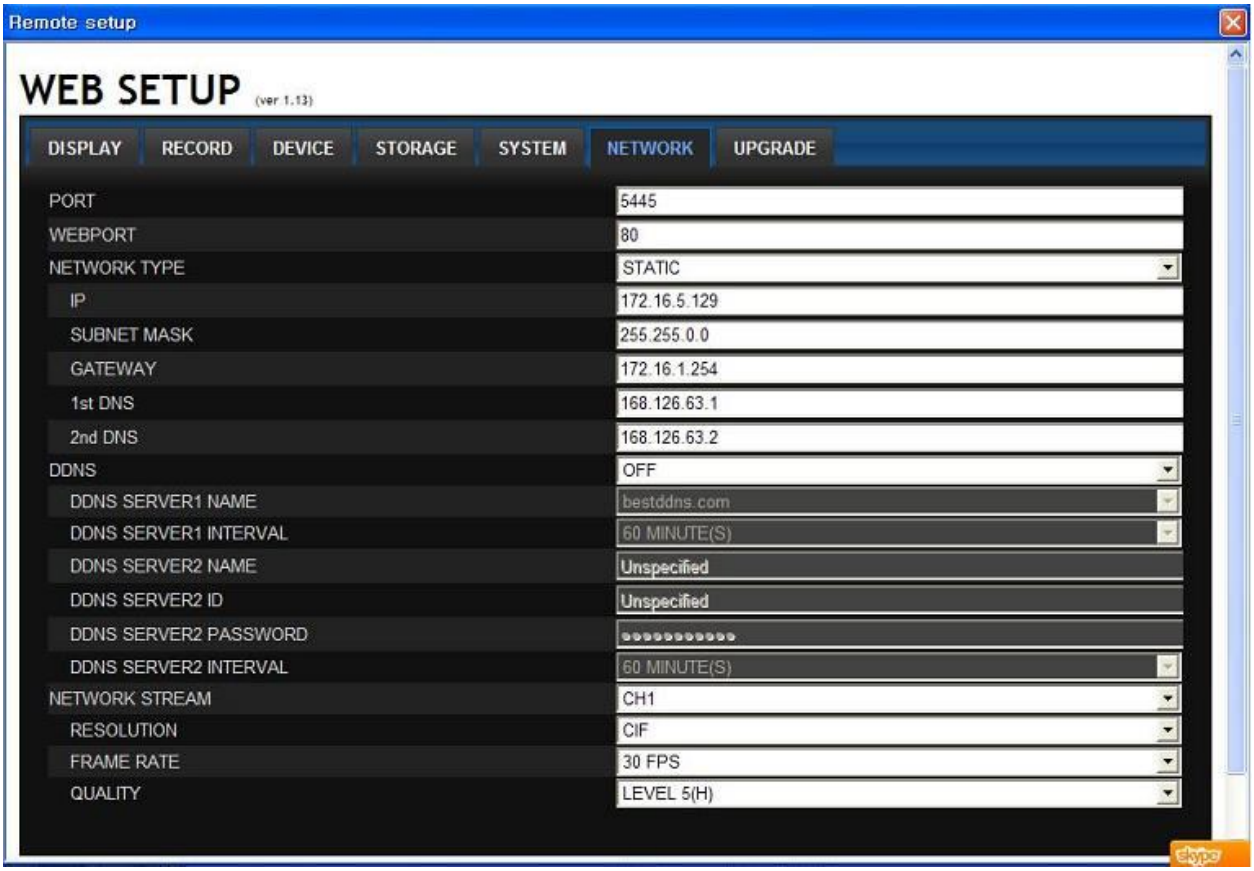
9-7-4. STORAGE



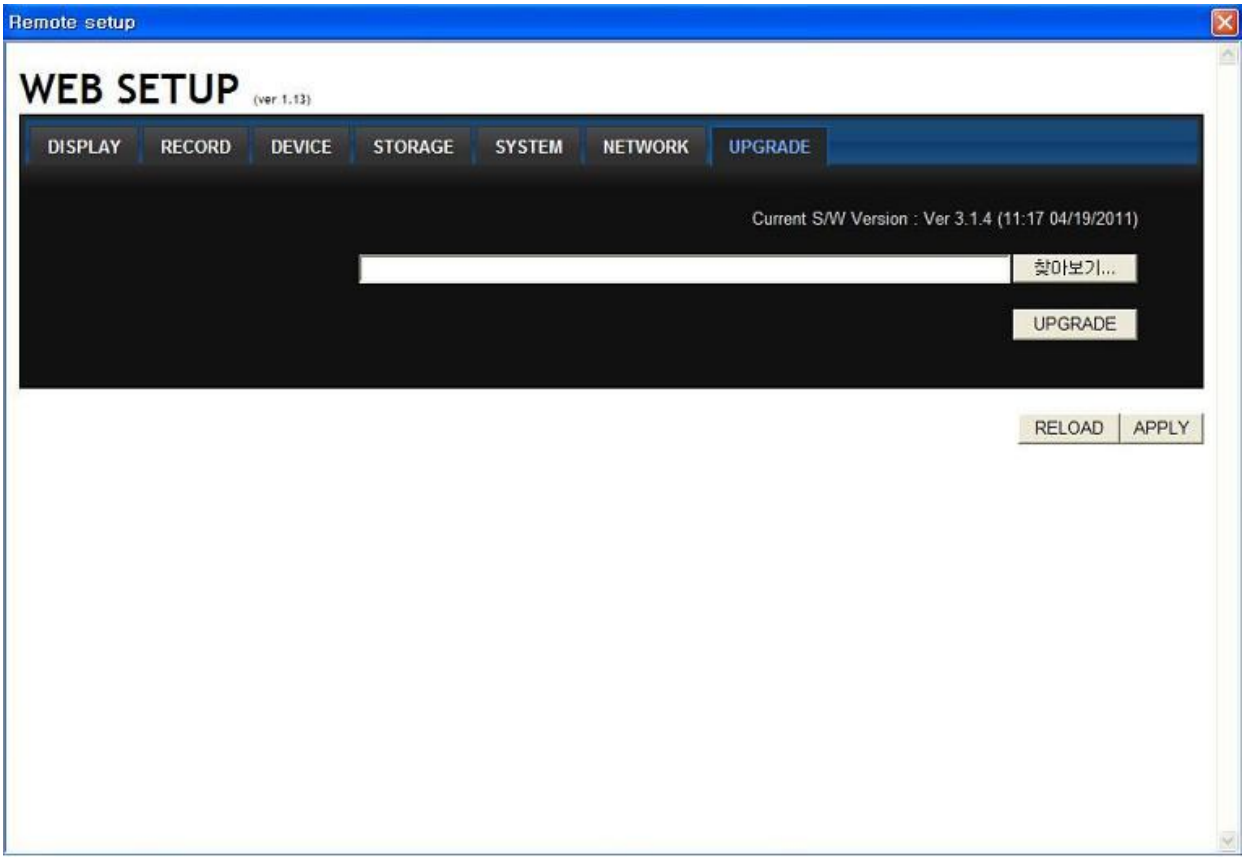
9-7-5. SYSTEM


Remote setup
WEB SETUP (ver 1.13)
DISPLAY
RECORD
DEVICE
STORAGE
SYSTEM
NETWORK
UPGRADE
DVR-ID
DVR
DATE FORMAT
YYYY/MM/DD
CLIENT ACCESS
ON
OFF
NTP
OFF
PRIMARY SNTP SERVER
kr.pool.ntp.org
SECONDARY SNTP SERVER
time.kriss.re.kr
TIME ZONE
GMT +9:00 (Seoul/Tokyo)
CONNECTION MODE
TIME
CONNECTION PERIOD
3
SEND EMAIL
OFF
TRANSMISSION MODE
IMAGE
IP NOTIFICATION
OFF
EVENT ALARM
OFF
SMART
OFF
MAIL TO
Unspecified
MAIL SERVER
Unspecified
ID
Unspecified
PASSWORD
MAIL FROM
Unspecified

9-7-6. NETWORK


Remote setup
WEB SETUP (ver 1.13)
DISPLAY
RECORD
DEVICE
STORAGE
SYSTEM
NETWORK
UPGRADE
PORT
5445
WEBPORT
80
NETWORK TYPE
STATIC
IP
172.16.5.129
SUBNET MASK
255.255.0.0
GATEWAY
172.16.1.254
1st DNS
168.126.63.1
2nd DNS
168.126.63.2
DDNS
OFF
DDNS SERVER1 NAME
bestddns.com
DDNS SERVER1 INTERVAL
60 MINUTE(S)
DDNS SERVER2 NAME
Unspecified
DDNS SERVER2 ID
Unspecified
DDNS SERVER2 PASSWORD
DDNS SERVER2 INTERVAL
60 MINUTE(S)
NETWORK STREAM
CH1
RESOLUTION
CIF
FRAME RATE
30 FPS
QUALITY
LEVEL 5(H)

9-7-7. UPGRADE



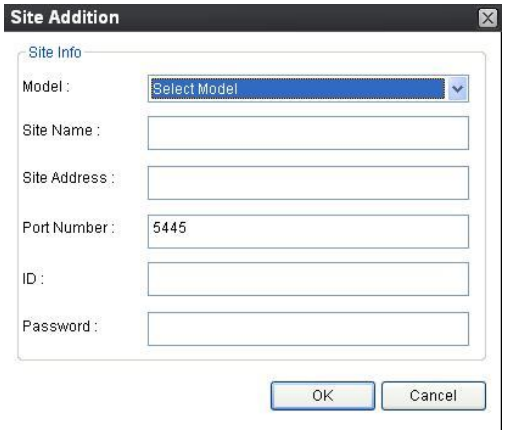
Please refer to page 54 for the Remote Upgrade.

9-8. Operation

9-8-1. Addition, Delete, and modify of DVR sites

9-8-1-1. Addition of sites

1. Click SITE ADDITION button. And then the following window displays.



- Model: User has to select surely a suitable type.
  SDVR series, H series DVR
  N series DVR, HD DVR
  IP Camera
- Site Name: Input a name that properly describes a site.

- IP Address: Input IP address (Public IP address of a router that DVR is connected.) or Domain name that is registered at www.okddns.com (for Korea), www.ddnscenter.com (for USA) or www.bestddns.com (for other area including EU)
- Port No.: Input port number of DVR.
- ID: Input ID of DVR.
- Password: Input network password of DVR.

2. Click OK button. And then the registered site is added on the directory window.

9-8-1-2. Delete of sites

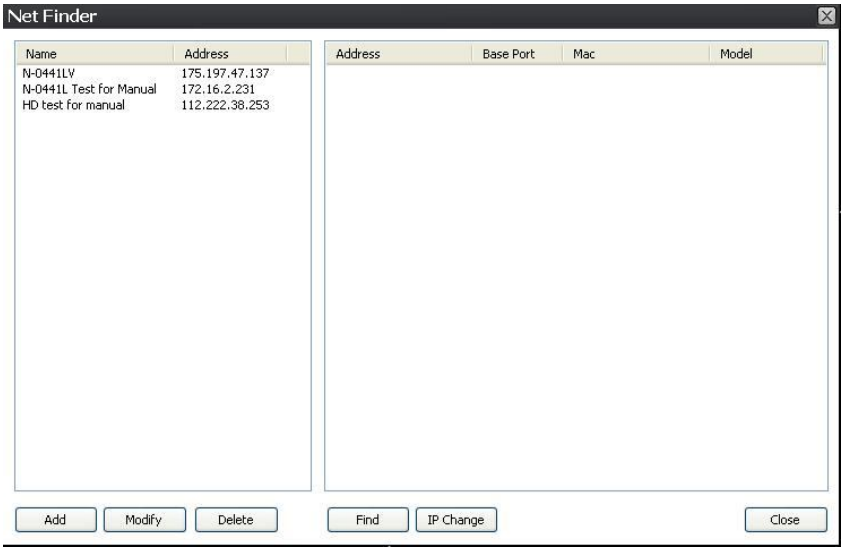
1. Select the site/sites to delete from the directory window.

2. Click SITE DELETE button. And then the selected site/sites is/are deleted.

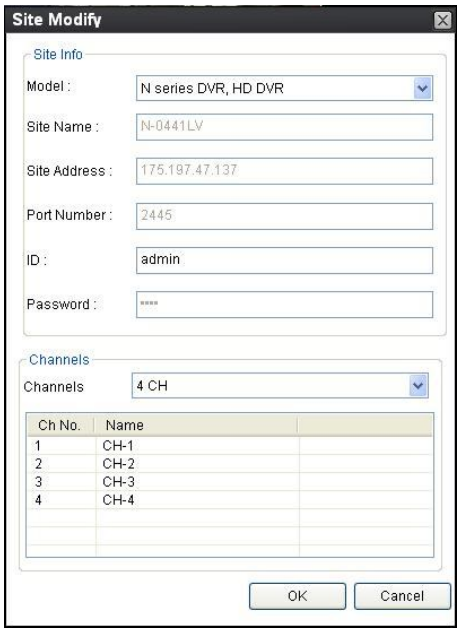
9-8-1-3. Modify of sites

1. Select the site/sites to modify from the directory window.

2. Click NET FINDER button. And then the following window displays.



3. Click MODIFY button. And then the modified information is applied.



9-8-2. Connect and Disconnect

9-8-2-1. Connect

1. Select site/sites to connect from the directory window.

2. Click CONNECT button, and then site/sites displays/display as connected.

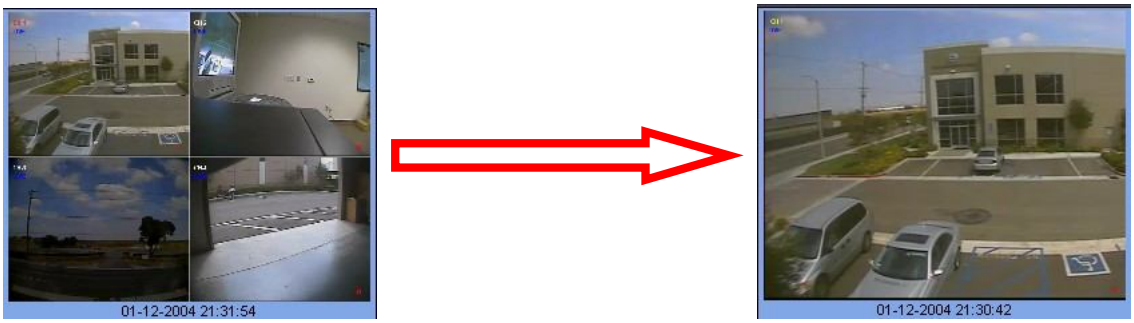
9-8-2-2. Disconnect

1. Select site/sites to disconnect from the directory window.

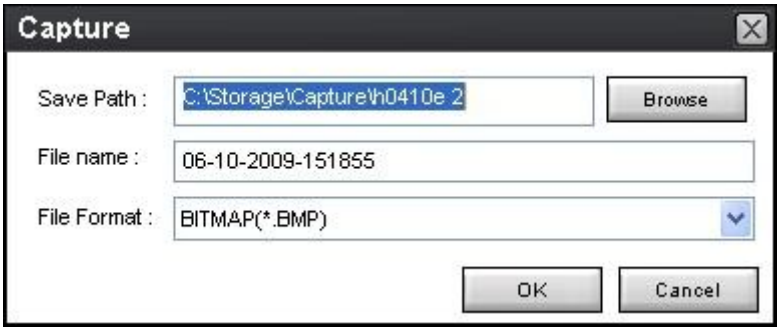
2. Click DISCONNECT button, and then selected site/sites disconnected.

9-8-3. Still-image capture during Live

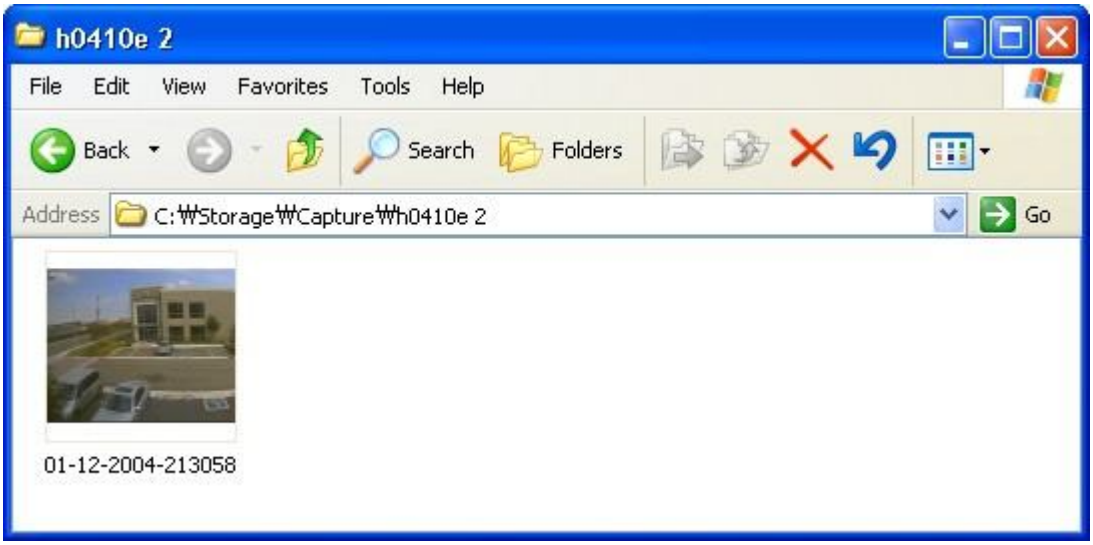
1. Double-click a channel to capture from the display screen. (Otherwise all channels will be captured.).



2. Click CAPTURE button. And then a Capture window displays.



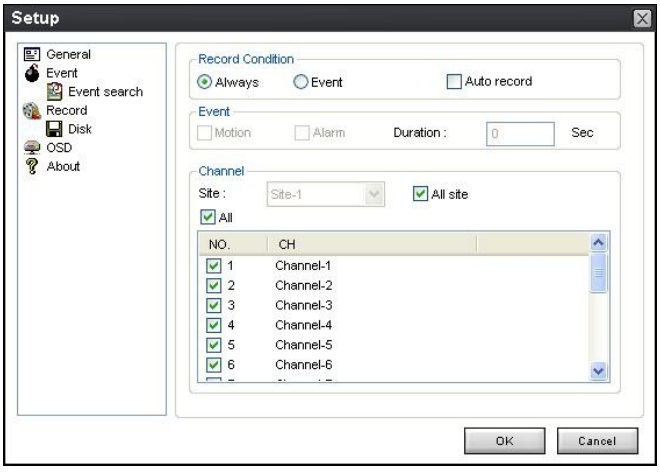
3. Set Save path, File Name, and File Format. And then click OK button.
4. Still image is saved as set in Capture window.



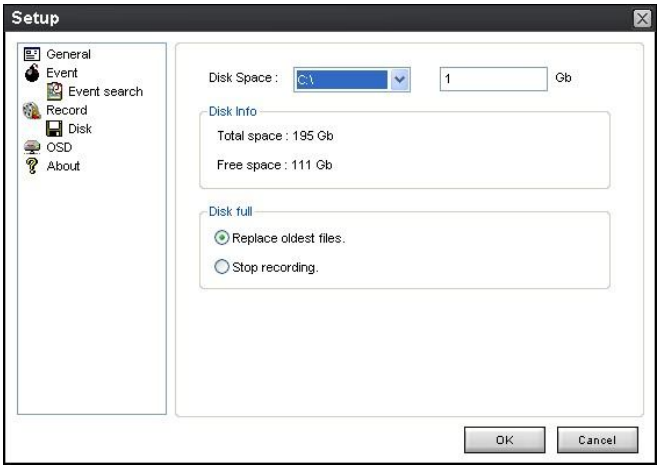
9-8-4. Recording video on local PC during Live

1. Click SETUP button. And then a setup window display.

2. Select Record and set the values.

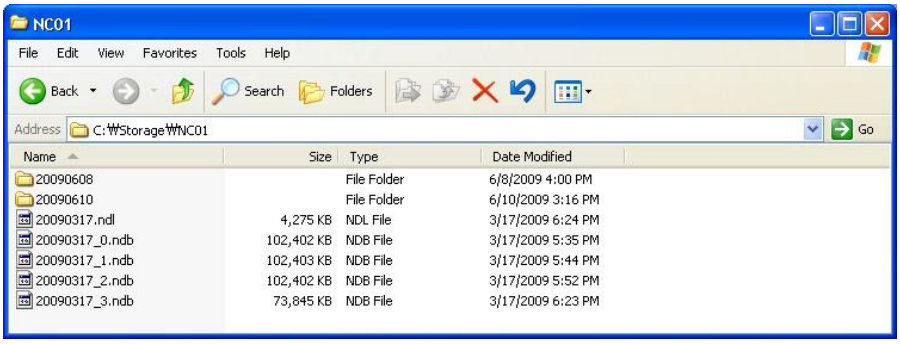


3. Select Disk and set the values.



4. Click RECORD ON button. And the color of button is changed.

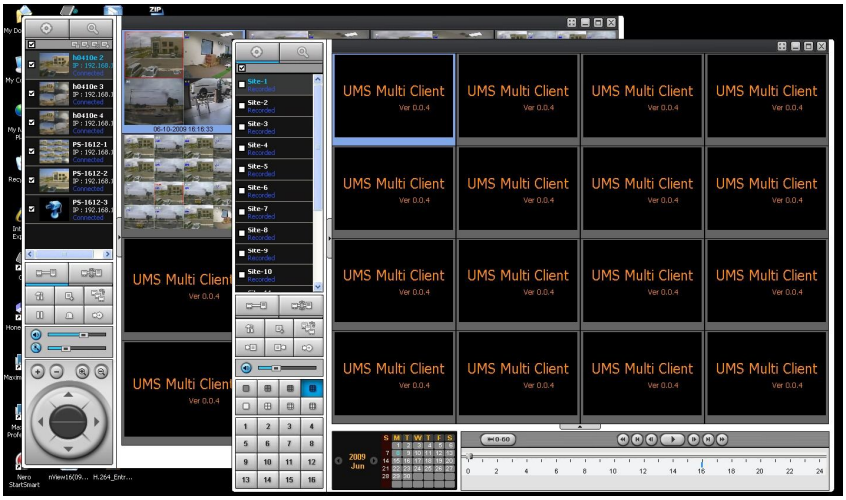
5. Live video data is recorded as set in Record and Disk setup. These video data can be searched and play-backed with Local Playback.


NC01
File Edit View Favorites Tools Help
Back Search Folders
Address C:₩Storage₩NC01
Go
Name Size Type Date Modified
20090608 File Folder 6/8/2009 4:00 PM
20090610 File Folder 6/10/2009 3:16 PM
20090317.ndl 4,275 KB NDL File 3/17/2009 6:24 PM
20090317_0.ndb 102,402 KB NDB File 3/17/2009 5:35 PM
20090317_1.ndb 102,403 KB NDB File 3/17/2009 5:44 PM
20090317_2.ndb 102,402 KB NDB File 3/17/2009 5:52 PM
20090317_3.ndb 73,845 KB NDB File 3/17/2009 6:23 PM

9-8-5. Local Playback and Remote Playback

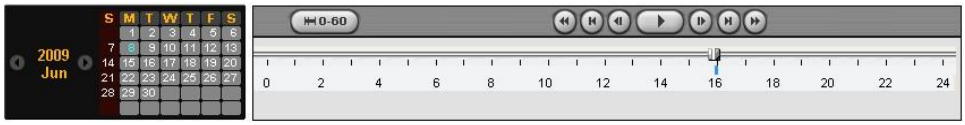
9-8-5-1. Playback of recorded video on local PC

1. Click LOCAL PLAYBACK button. And then Playback Window display over Live Window.

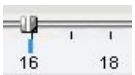


2. Select site/sites to connect from the directory window.

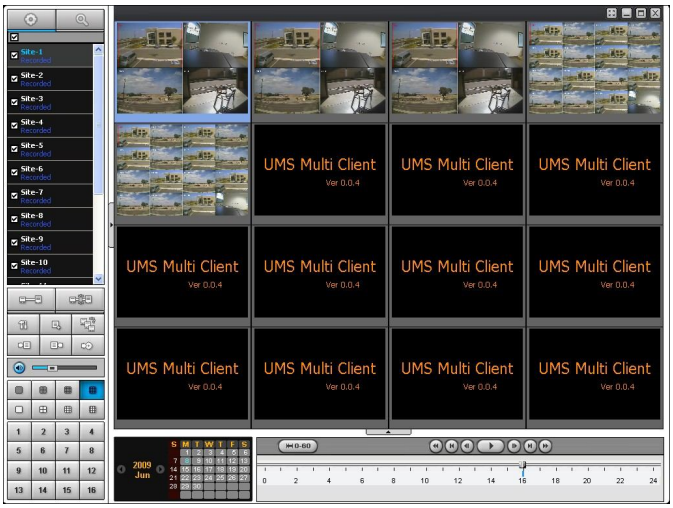
3. Click CONNECT button. And then Green bar displays on Search calendar and slide window.



4. Move scroll bar on where there is video data and Play button.

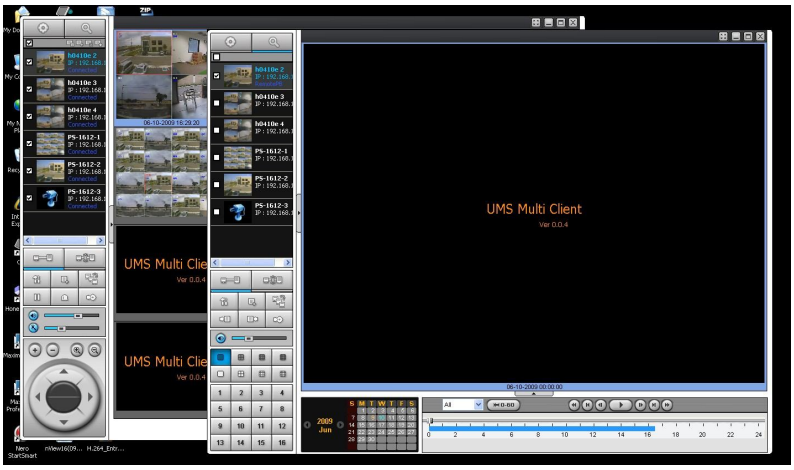


5. Video data that is recorded on local PC will be play-backed.



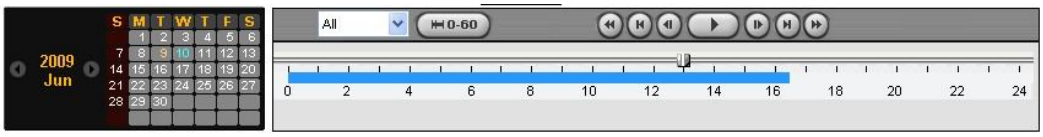
9-8-5-2. Playback of recorded video on remote DVR

1. Click REMOTE PLAYBACK button. And then Playback Window display over Live Window.

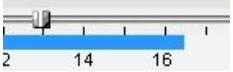


2. Select site to connect from the directory window.

3. Click CONNECT button. And then Green bar displays on Search calendar and slide window.



4. Move scroll bar on where there is video data and Play button.

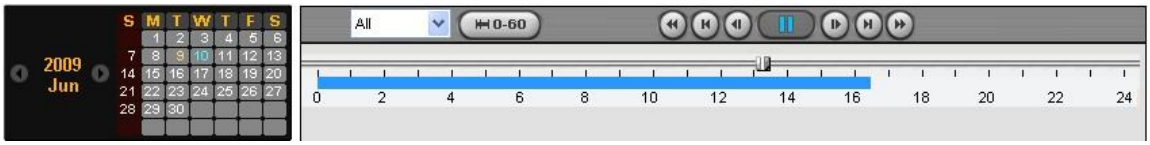


5. Video data that is recorded on a remote DVR is play-backed.

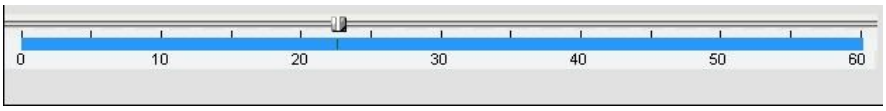
9-8-6. AVI Backup during playback

You can back up the recorded videos in AVI format during playback.

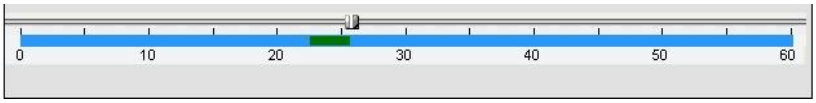
1. Double-click the target channel to backup.
2. Select the beginning time by using the search calendar and slide bar.



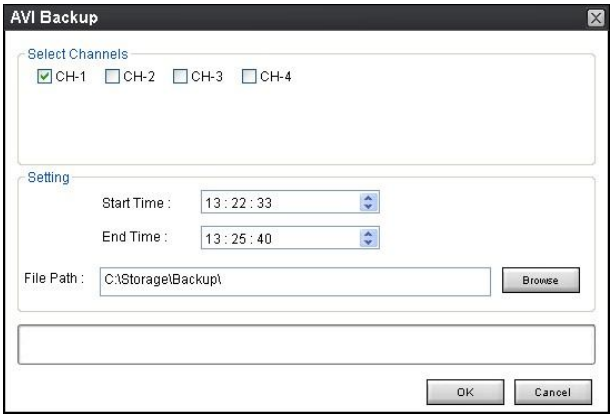
3. Click MARK IN button, when the scale of the timeline is located on the target time as the beginning time of backup.



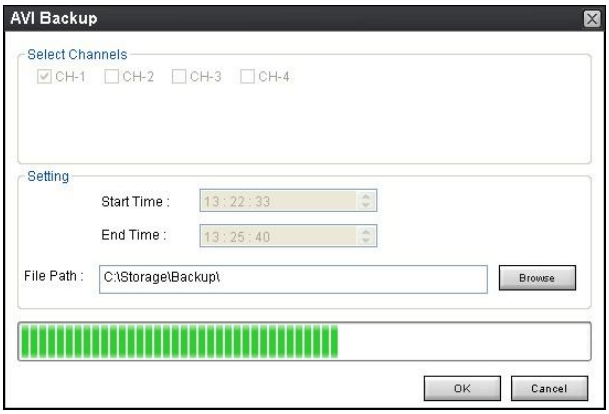
4. Set the ending time on the blue timeline by dragging the scale on the target time as the ending time of backup and clicking MARK OUT button. Then, color of the timeline between the beginning time and ending time will be changed into dark Green.



5. Click BACKUP. And then the window appears as below.



6. You can also set the beginning time and ending time on this window. After selecting a channel for backup, click the OK button. The backup will begin.



7. AVI video data is recorded as set in AVI Backup window. AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video.

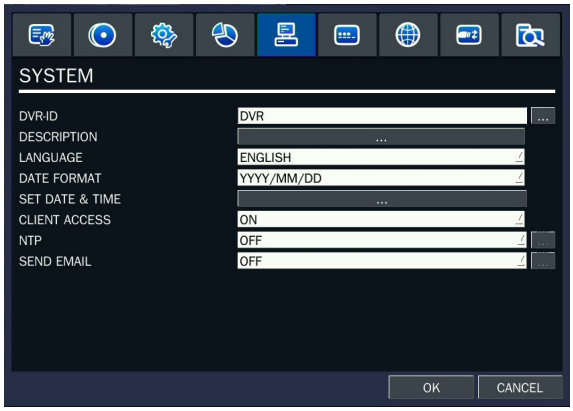
Notice

When it does a backup with NSF format, user can do a playback using the DVR player. The DVR player is installed with the S/W in user's PC.

10. Network – By an web-browser viewer

The DVR provides a live remote monitoring feature by web-browser viewer.

1. Check the IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS.



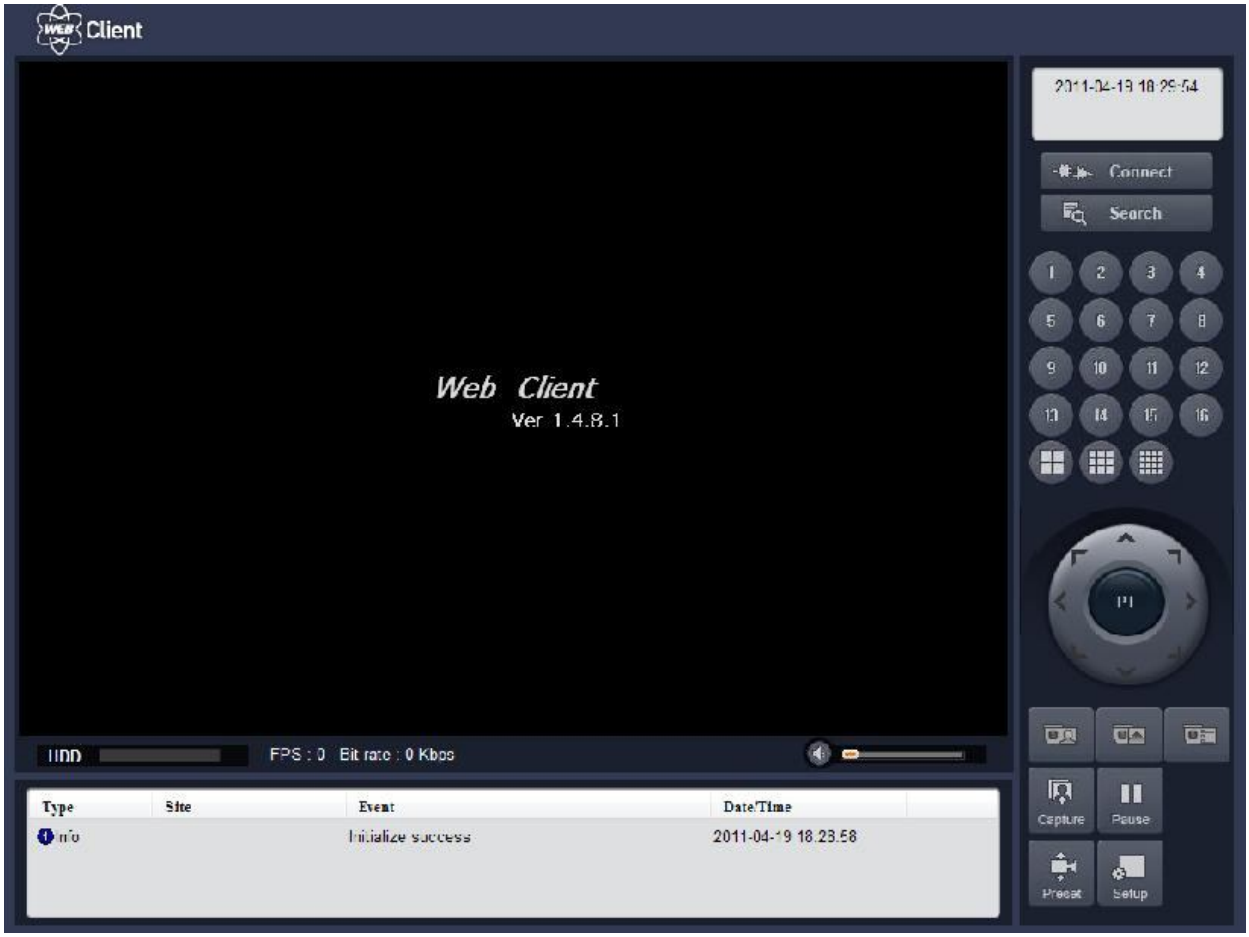
2. Input the IP address or Domain name address that you pre-registered on www.bestddns.com on the address field and press “Go”. Please pre-register on www.okddns.com in Korea and on www.ddnscenter.com in USA.

3. Click this bar. Then the dialog box is displayed.

4. Click “Install” to download ActiveX control.

Internet Explorer - Security Warning
Do you want to install this software?
Name: WebViewer
Publisher:
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

5. Web Browser Viewer is displayed as bellow.



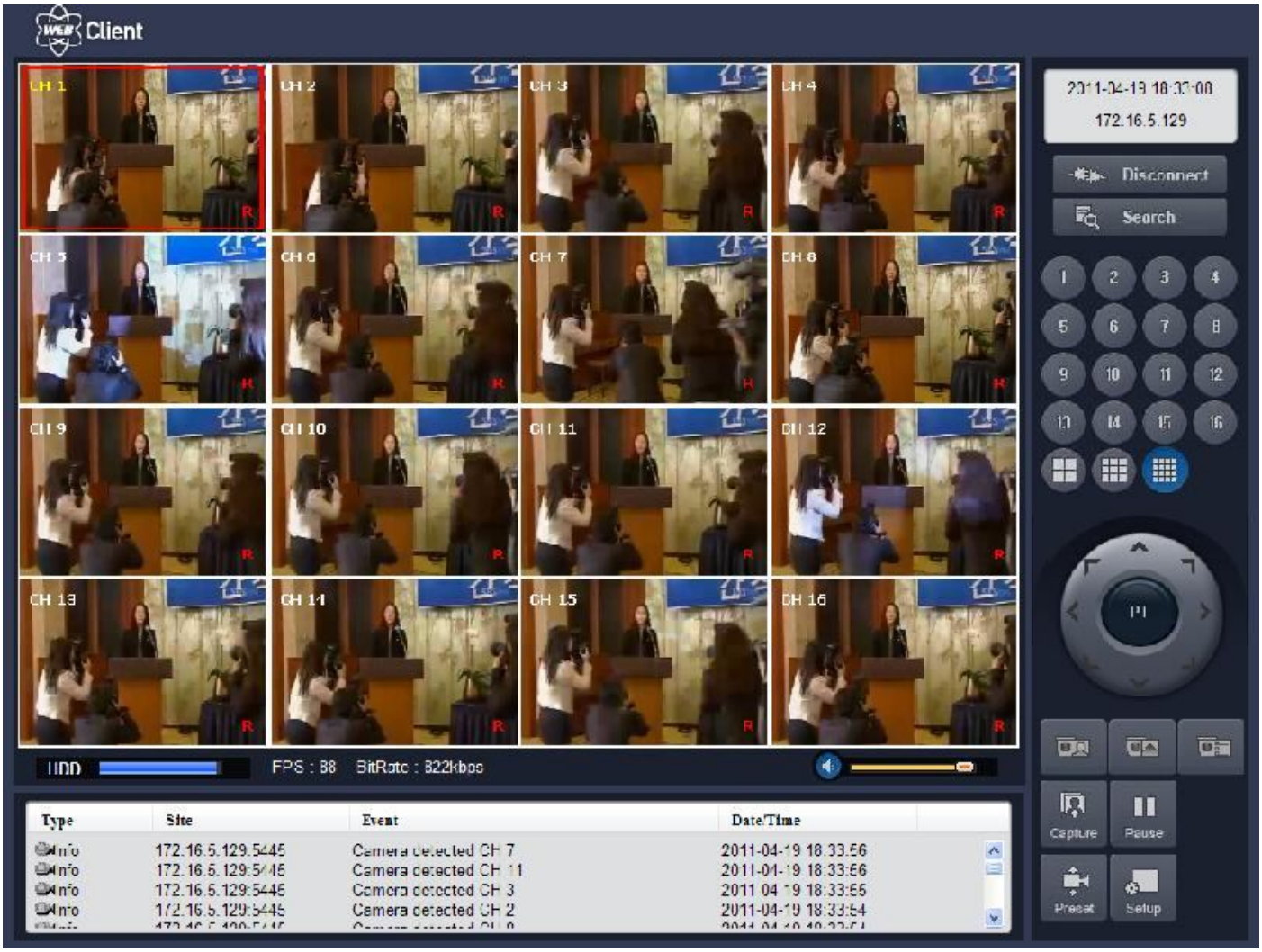
6. Click CONNECT button on the Left upper corner of web-viewer. Then “Connect” dialog is displayed. Enter IP address (or Domain name address that you pre-registered on www.bestddns.com, www.okddns.com or www.ddnscenter.com, Port number and Password and click “Connect”

- Server address: Input IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS or Domain name address that you pre-registered on www.bestddns.com,

www.okddns.com or www.ddnscenter.com,

- Port: Input Port number (The number is set on SETUP>NETWORK>PORT.)
- ID: Input ID of DVR.
- Password: Input network password of DVR.
  (The number is set on SETUP>SYSTEM>NETWORK PASSWORD.)

7. Then the cameras connected to the DVR are displayed on the screen.



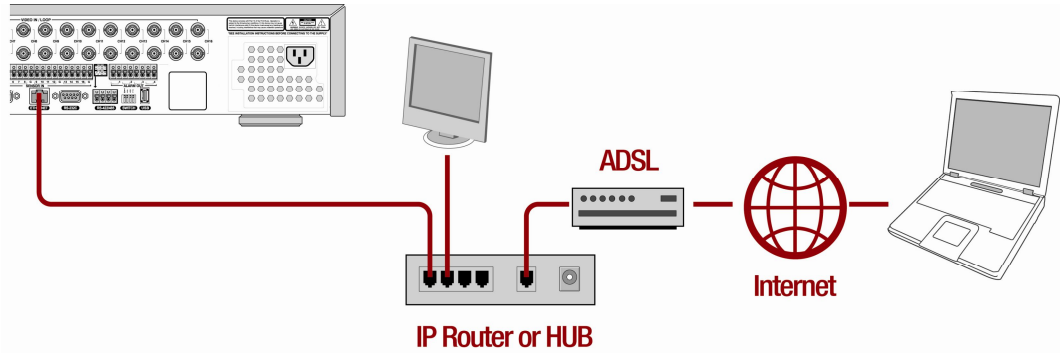
9. SETUP: The menu settings for the DVR unit can be set from a PC, via network. Refer to the detail of Remote Setup description of UMS Multi Client. Please check the detail to the page 77, Remote Setup.

APPENDIX: How to connect network

A. How to set IP address of the DVR and open TCP port of the router?

The port forwarding is dependent on the brand and model of the router. The port forwarding is required to allow access to the DVR beyond a router.

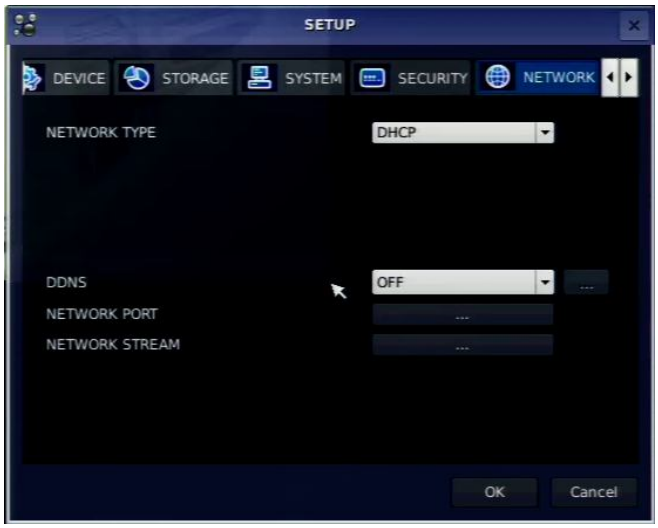
Connect network cable between DVR and Router or ADSL modem.



1. Default network setting on DVR are
   - Port: 5445
   - WEB Port : 80
   - Network : DHCP
2. From PC connected in the same Router, find IP address, Gateway, and Subnet mask by IPCONFIG command in command prompt.

Run
Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:
cmd
OK
Cancel
Browse...
C:₩WINDOWS₩system32₩cmd.exe
C:₩>ipconfig
Windows IP Configuration
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . :
IP Address. . . . . : 192.168.0.101
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.0.1
C:₩>

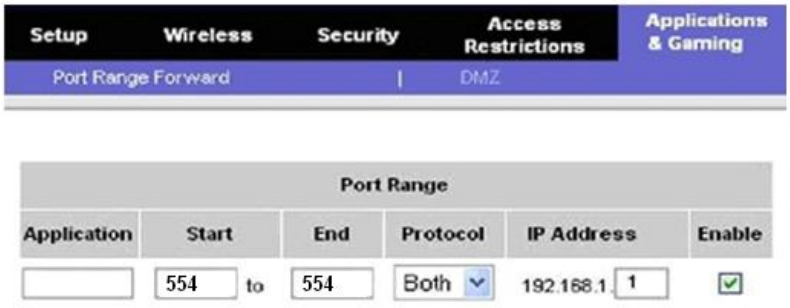
3. But if IP is something else like 192.168.x.xxx., you should change IP address, Subnet, Gateway on the DVR. Go to SETUP>NETWORK>LAN of the DVR and change the IP settings to be like IP: 192.168.XXX.XXX and Gateway: 192.168.XXX.XXX. (Refer to the user's manual of Router.)



Open your web browser. Enter the router IP address in the address bar (The router IP address are different with the brand and model.), click GO.

4. Enter the user name and password (**admin** is default) and press the **OK** button.

5. Select the Port Range Forwarding tab.



6. Enter the each field.
   i. Application: Enter a description of the DVR (Example: store1)
   ii. Start: Enter the first number of the port you need to port forward (Example: 5445)
   iii. End: Enter the last number of the port you need to port forward (Example: 5445)
   iv. Protocol: Select Both.
   v. IP address: Enter the IP address of the DVR on SETUP>NETWORK>LAN>IP ADDRESS.
   vi. Enable: Check the enable box.

7. Select the Save settings button located on the bottom of the window. Then Port forwarding is finished.

Network access beyond a router

In order to access the DVR remotely beyond a router (firewall), the user must open TCP port for command level, live channels and storage channels. User need to open 2ports numbers on the router; the DVR port number 5445 and the WEB port number 80.

If this port is not opened properly, user can not access DVR beyond a router.

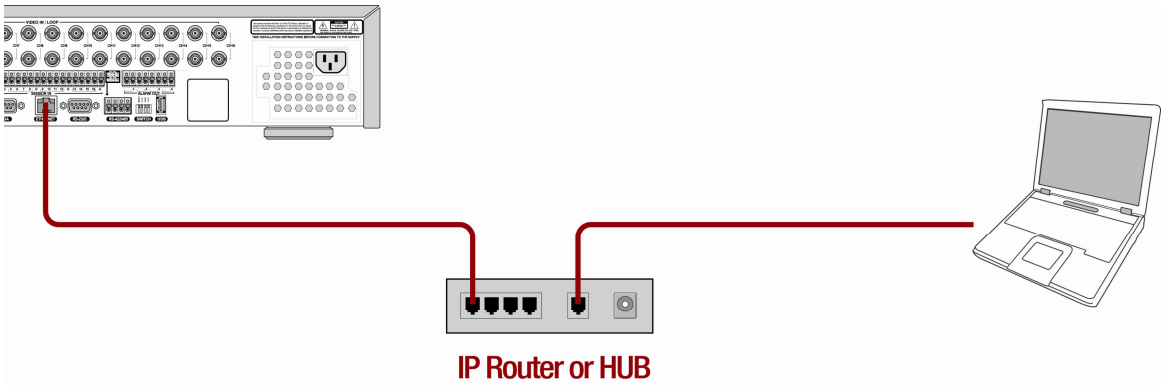
You can learn how to port forward many kinds of Routers from the bellow site.

http://www.portforward.com/english/routers/port_forwarding/routerindex.htm

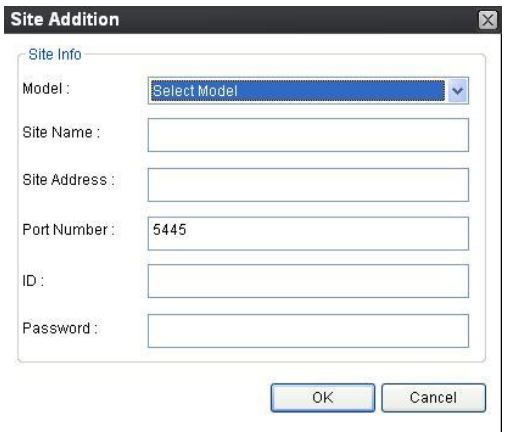
B. How to access DVR from Remote PC?

LAN Connection – Using a switching hub

Connect to the system, using a hub (Switching hub) and an Ethernet cable (10BASE-T/100BASE-TX CAT 5 LAN cable)



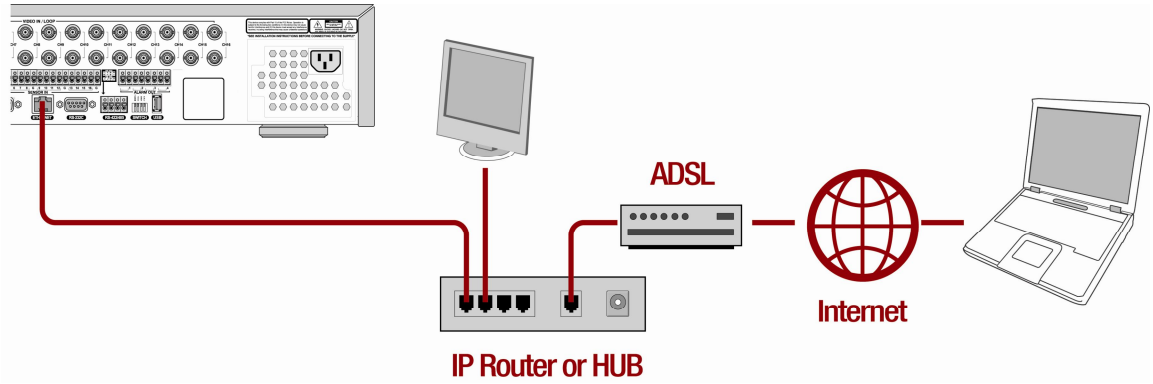
1. Run the pre-install the network client software on the supplied CD. (Refer to Chapter 6. Network access using the Exclusive network viewer)
2. Check the IP address from SETUP>SYSTEM>DESCRIPTION of DVR.
3. Run network client software and click button.



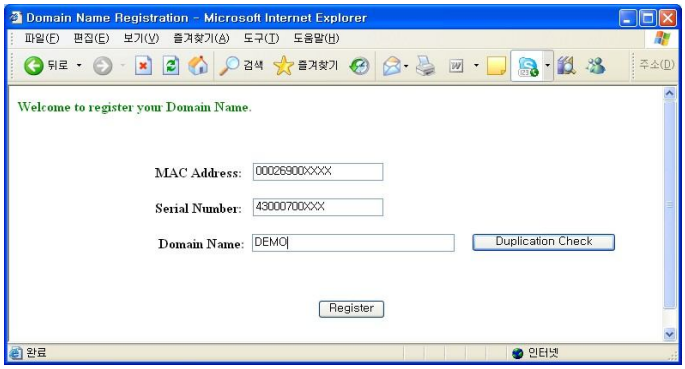
4. Input Site Name, Site Address(IP address), Port No., and Password on the connect window. And click OK. Then, press button after checking the left check box.

Internet (ADSL) Connection using DDNS

Connect to the system, using an Router or ADSL modem and an Ethernet cable (10BASE-T/100BASE-TX CAT 5 LAN cable)



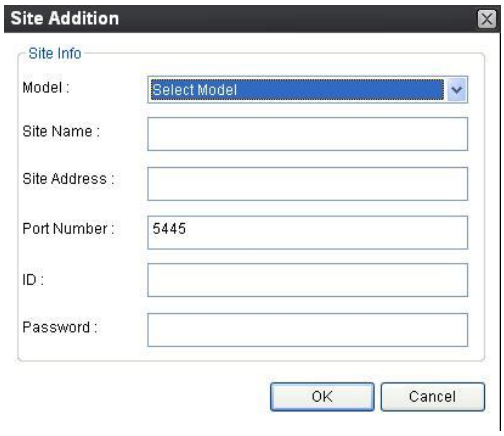
1. Go to SETUP>NETWORK. Set NETWORK TYPE as DHCP and DDNS SERVER as ON. And select one type among bestddns.com, okddns.com and ddnscenter.com after setting to DDNS1.
2. Go to Setup menu of Router and open TCP port 5445 and 80 using Port Forwarding. (Refer to A. How to set IP address of the DVR and open TCP port of the router?)
3. Confirm the Mac address and Serial No. from the label of the rear panel of the DVR.
4. Open the web browser and log on http://www.bestddns.com. Please log on http://www.okddns.com in Korea and http://www.ddnscenter.com in USA.



- MAC Address: Input the Mac address (EX. 0002690XXXXX) without any space.
- Serial Number: Input the Serial No. (EX. HD0410SA1100XXX.) without any space.

5. Domain Name: Input Domain Name for your DVR system
6. Click the DUPLICATION CHECK button to see if the domain name is available.
7. If you see the screen “You can use the Domain name you entered” then click RETURN and click REGISTER button to complete the registration.
8. Run the pre-install the network client software on the supplied CD. (Refer to Chapter 8. Network access using the Exclusive network viewer)

9. Click button and add the DVR as necessary.



- Model: Select one type surely among SDVR series, H DVR series DVR / N series DVR, HD DVR / IP Camera.
- Site Name: Input the name of the DVR.
- Site Address: Input the Domain Name that is registered on http://www.bestddns.com. Please log on http://www.okddns.com in Korea and http://www.ddnscenter.com in USA. (EX. XXXXX.bestddns.com)
- Port Number: Input the DVR port number.
- Password: Input the network password.

10. Press button after checking the left check box of the site that you will access.